



**Attitudes and Knowledge
Related to Clean Water:
Formative Research Conducted in the
Brandywine—Christina Watershed
of Southeast Pennsylvania**

Final Report

May 2016

**Conducted by
The Nature Conservancy
&
University of Delaware,
Water Resources Agency**

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Table of Contents

Report of Findings	1
Survey Questionnaire	2
Focus Group Supporting Materials	3
Focus Group Transcripts	4



1

Report of Findings

May 2016

Overview of this Study

The Nature Conservancy and University of Delaware, Water Resources Agency sponsored this study of the Pennsylvania portion of the Brandywine-Christina watershed to understand how the public thinks about water quality, and to help inform public outreach in support of a proposed new fund for water restoration in the watershed. Tentatively called the “Healthy Water Fund,” this mechanism would gather resources to enable water restoration. This study sought to understand the baseline level of support for such a proposal, as well as specific priorities that the public would have for water restoration, and the language and imperatives that would resonate with them in describing it.

This work was conducted in two phases:

1. A representative population survey was conducted by telephone among 300 randomly-selected residents of the watershed in May 2016.
2. Two focus groups, one each conducted among suburban residents and agricultural producers in the watershed, were held on the evening of May 12, 2016.

A more detailed methodology statement is found at the end of this narrative. At various points in this summary, comparisons will be made to a prior similar study conducted across the State of Delaware for the Delaware Nature Society (DNS) in December 2014. Occasionally, comparisons will also be made to similar work conducted in the Chesapeake Bay watershed.

The full report follows.

May 2016

Summary of the Research Findings

This opinion research project has identified a public in the Pennsylvania portion of the Brandywine-Christina watershed with some concerns about water quality. Specifically, many people are not drinking their tap water at home or are filtering it. Locally-caught seafood is suspect in the minds of most residents. The possible presence of toxins brought on by industrial pollution is a palpable concern of many residents. Development pressures continue to burden the waterways, many residents believe. Despite it all, though, nearly nine residents in ten believe that the problem of water pollution can be fixed.

All of this translates into support for a mechanism like a Healthy Water Fund to bring focus and new resources within the watershed to the problem of water pollution. In concept, a majority of residents support such a Fund, and would be willing to pay a “reasonable” amount to support it.

There are many important caveats to their support. They strongly prefer that the Fund not be administered by a government agency. They would look for an independent entity without a profit motive to administer it. Accountability must be built in. Revenues must be collected broadly across the population, but residents and agriculturalists strongly prefer that contributions to the Fund be voluntary. Naturally, there is a rub there which will need to be discussed with the public.

Both suburban residents and agricultural producers involved in the research made clear that they are most likely to become supportive and engaged if the Fund would benefit them and their families directly. They are impatient to see results, wanting to see them soon. Again, conversation with the public will be needed to create a realistic set of expectations for the immediacy of impact from such a Fund.

Finally, and importantly, a near-majority of residents believe they make no contribution at all to water pollution. Many others believe they contribute only “a little bit.” To ensure widespread support for a Healthy Water Fund and its work, the public must begin to believe that they contribute meaningfully to the problem.

The following report provides detailed findings from this survey and focus group research.

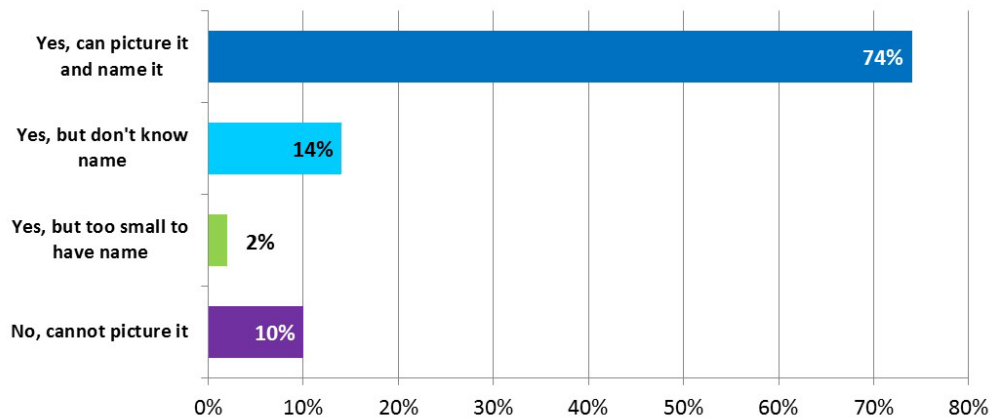
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Detailed Findings

Connection with the Water: Ability to Picture the Most Local Water

As one measure of how connected residents of the watershed feel to their local waters, the survey asked if they could “picture in your mind the closest stream, creek, or river to your home.” Three-quarters (74%) of survey participants said they could both picture the water and name it. Another 14% said they could picture it but did not know the name, while 2% said the closest water was too small to have a name.

Can Picture Closest Body of Water



“Can you picture in your mind the closest stream, lake, or river to your home?”
(If yes): “What is its name?”

These numbers are similar to those collected statewide in Delaware on the 2014 DNS survey. There, 68% of residents could both picture and name a waterway that they considered closest, and 18% said they could picture the water but did not know its name. Fourteen percent in Delaware could not picture their closest water at all.

One resident out of ten (10%) in the Brandywine-Christina watershed said they could not picture the closest stream, lake, or river to their home. That percentage is much higher among people of color in the watershed, with 20% of African-Americans, 32% of Asians, and 45% of Hispanics saying they could not picture the water closest to them.

There is also evidence in the survey that one’s connection to local water is related to their underlying sense of environmentalism. While 87% of people who consider themselves above-average or strong environmentalists can both picture and name their closest water, the number drops to only 55% of those who consider themselves below-average or not at all environmentally-minded.

May 2016

These are the waterways that were named by survey participants.

Closest Waterways Named by Residents

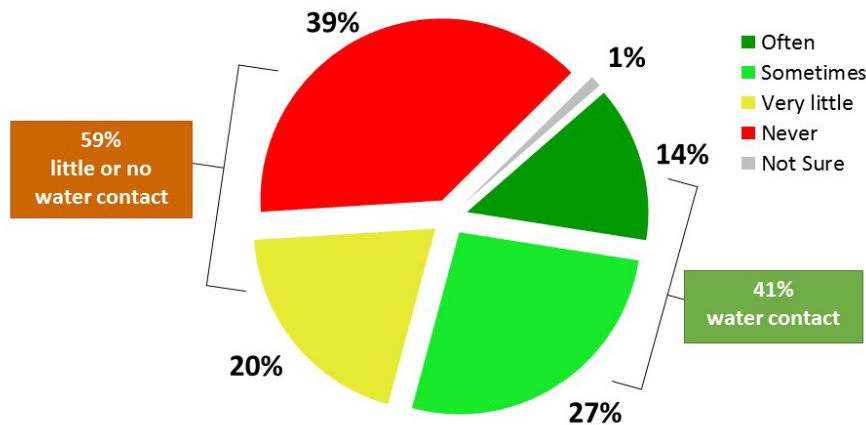
Brandywine Creek/ River	68%
White Clay Creek.....	4%
Marsh Creek.....	3%
Delaware River	3%
Red Clay Creek	2%
Chester Creek.....	2%
Single-mention streams/ creeks	17%

*“Can you picture in your mind the closest stream, lake, or river to your home?”
 (If yes): “What is its name?”*

Personal Contact with the Water

Approximately four residents in ten (41%) said they often (14%) or sometimes (27%) swim, fish, or boat in the rivers or streams near where they live. Of the remainder, 20% said they swim, fish, or boat “very little,” while 39% “never” do, and 1% were not sure.

Water Recreation



“Do you or others in your family swim, fish, or boat in the rivers or streams near where you live often, sometimes, very little, or never?”

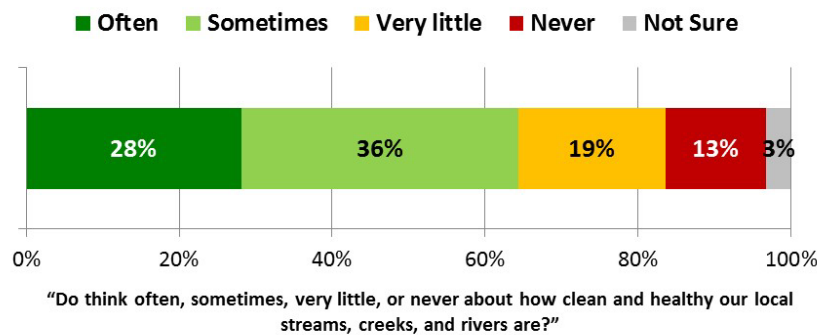
This water contact, however, has almost no influence on attitudes about water quality, one’s own impact on the water, or willingness to support a Healthy Water Fund. As measured in the survey, people who are often or sometimes in the water are only marginally more likely to see local waters as impaired, though they have much more confidence in the safety of the seafood that comes out of the water. In all other ways, their views are nearly identical to their neighbors who have little or no water contact. Therefore, there is no evidence in this research that people with water contact are a natural consistency who can be mobilized to support the Fund.

May 2016

How Much Watershed Residents Think about Clean and Healthy Water

As another indication of residents' level of engagement and concern for the water, the survey asked how often residents *think about* "how clean and healthy our local streams, creeks, and rivers are." Nearly two-thirds of residents (64%) said they think "often" (28%) or "sometimes" (36%) about water health. One-third of the public (32%), however, thinks very little (19%) or never (13%) about how clean and healthy local waters are. This question provides one indication of how much of the public can be readily engaged on water quality issues.

Think about the Health of Local Waters



While 28% of residents overall think "often" about the health of local waters, that number jumps to 65% of those who rate themselves a "5" on the scale of environmentalism (the highest score), in other words calling themselves a "strong environmentalist." Residents over age 50 are also more likely to think about it, with 39% of those aged 50 to 64, and 34% of people over age 65 thinking often about how clean and healthy local waters are.

Grading the Local Waters

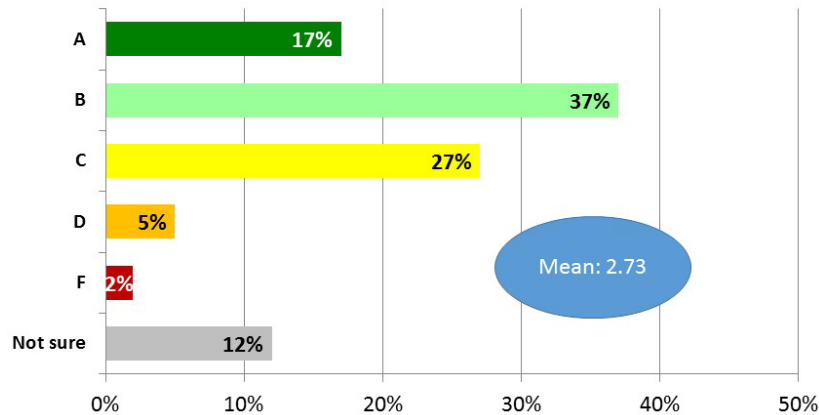
Survey participants were asked to offer their perceptions of the condition of local waters by using the classic A to F scale known from school. They were asked to grade the waters on this scale, with "A" meaning "extremely clean and healthy," and "F" meaning "extremely polluted and unhealthy." Grades ranged up and down the scale, averaging B-Minus.

A majority of residents (54%) graded their closest water an "A" (17%) or "B" (37%). Another 27% scored their water a "C," while 5% gave the water closest to them a "D," and 2% gave it a failing grade. Converted to a mean using the traditional 4.0 scale where A=4 and F=0, these water quality grades averaged 2.73 (B-Minus).

May 2016

Health of the Water

Grading the Stream, Lake, or River Closest to Your Home



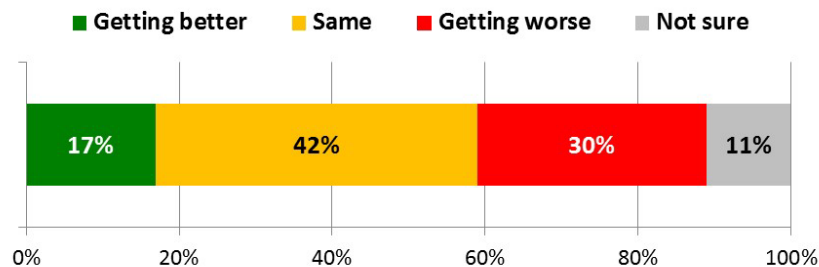
“Students are often given the grades of A, B, C, D, or Fail. If I were to ask you to grade the health of the stream, lake, or river closest to your home on that A to F scale where ‘A’ means it is extremely clean and healthy, and ‘F’ means it is extremely polluted and unhealthy, what grade would you give it?”
 For mean calculation, A=4, B=3, C=2, D=1, F=0.

Compared to nearby areas, residents of the Brandywine-Christina watershed expressed a somewhat more positive assessment of their local waters. On the statewide Delaware survey conducted for DNS, residents graded their local waterways 2.17 on average (C-Plus). In a recent survey spanning the Chesapeake Bay watershed conducted by OpinionWorks (January 2016), residents’ average score was just 2.06 (C). Brandywine-Christina watershed residents feel more positive about their most local waterways than do residents of those other nearby areas.

Perceived Trend in Water Quality

Comparing the condition of local waters today to “a few years ago,” nearly twice as many Brandywine-Christina watershed residents see the health of local waters getting worse (30%) as those who see it getting better (17%). Many residents (42%), though, see no change in water quality compared to a few years ago, and another 11% said they are not sure.

Trend in Water Quality



“Do you think the health of local waters is generally getting better, getting worse, (or) staying about the same compared to a few years ago?”

Note that there is a strong relationship with age on this question. As illustrated in the table below, by a ratio of five to one residents under age 35 see the water as getting worse. Meanwhile, residents over age 50 see the water getting better by a ratio of about 1.5 to one.

May 2016

Trend in Water Quality by Age Group

	Getting Better	Staying about the Same	Getting Worse	Not sure
Age 18-34	8%	38%	39%	14%
35-49	13%	40%	39%	8%
50-64	29%	43%	20%	9%
65 or older	23%	47%	16%	14%

There was a very strong sense in the agricultural focus group that not just water quality, but agricultural practices have improved dramatically over the last several decades. Farmers spoke of a variety of practices, especially cover crops, no till farming, and buffers, that they believe have made the ag community much better stewards of nearby waters.

“The cover crop we put on last year had such good growth to it, we weren't getting any erosion out of the fields and stuff. We're at the beginning of, we have two beginning starts of the White Clay (Creek) on our farm.” – Agricultural Focus Group Participant

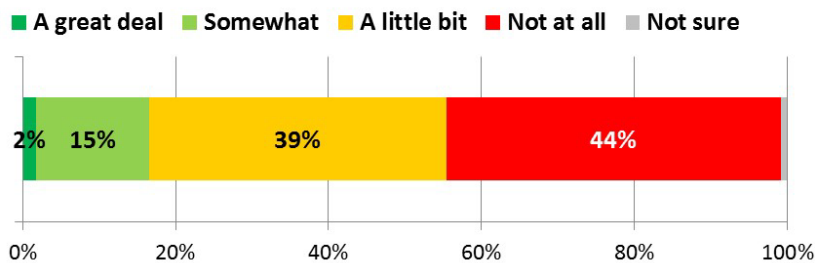
The agricultural focus group participants also talked a great deal about State-mandated conservation plans, and the role those plans have made in encouraging better management of stormwater runoff. If these participants are any indication, the conservation plans have also made them highly aware of their responsibilities and conversant with best practices in water stewardship.

“I know mushrooms were a big pollutant years ago and now they are not, partly because of working with these conservation plans where all the water stays within the property and (is) handled, as opposed to in a big storm runoff. I know we've made improvements as an industry and I think other industries are doing the same.” – Agricultural Focus Group Participant

Impressions of One's Own Impact

Residents tend to minimize *their own* impact on the water, with only 17% saying they contribute at least “somewhat” to water pollution. Almost four residents in ten (38%) said they contribute only “a little bit” to water pollution.

Personal Impact on Water Quality



“When it comes to your own impact, do you think you are contributing to water pollution a great deal, somewhat, a little bit, or not at all?”

That leaves nearly half (44%) of watershed residents who feel they contribute to water pollution “not at all.” This striking finding points up a need to educate the public about the average individual’s impact. Without the belief that they are contributing to water pollution personally, individuals’ engagement with water restoration will rely on their willingness to be philanthropic, or their sense of duty to clean up a mess that someone else has created – neither of which is a successful formula for widespread engagement.

May 2016

This finding is not unique to the Brandywine-Christina watershed. In the recent Chesapeake Bay survey, 38% said they did not contribute to water pollution at all, and 35% said they contribute only a little bit.

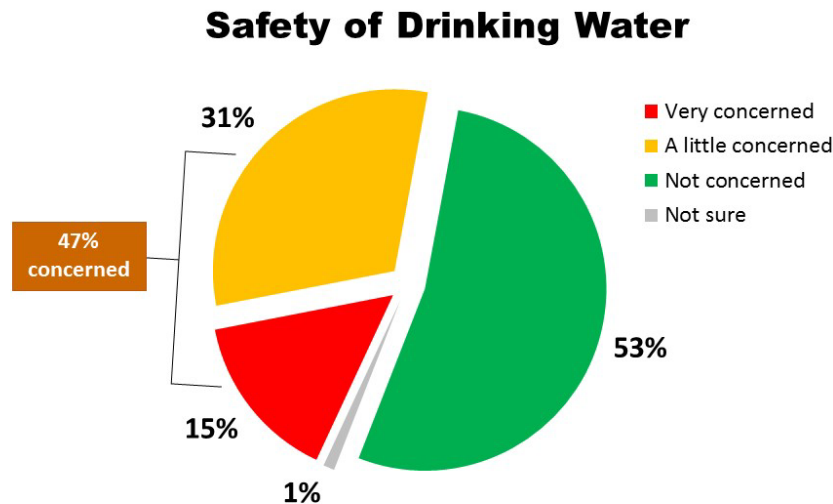
When asked in the focus groups who is to blame, both agricultural and suburban residents were most apt to blame two major culprits: legacy industrial pollution, and population growth that produces development, sprawl, and infrastructure problems such as sewer overflows. While farmers were very ready to blame suburban residents for water pollution because “they have to have the greenest lawn,” agricultural focus group participants were also willing to accept their own share of responsibility for “pollution (resulting from) runoff from farmers.” Simply, a farmer summed up individual responsibility this way:

“If you own a property, you've got runoff running off of that property. We should all take our part in making sure that water is as clean as it can be running off.” – Agricultural Focus Group Participant

Concerns about the Safety of Drinking Water

Concern for water quality is often driven by worries about the health and safety of tap water or local seafood. In the Pennsylvania portion of the Brandywine-Christina watershed, residents have significant concerns on both counts.

Nearly half of residents (46%) expressed some concerns about the safety of their drinking water at home. Fifteen percent of residents said they were “very concerned” about their drinking water, while another 31% said they were “only a little concerned” about the water that comes out of their tap.



“Are you ever concerned about whether your own tap water at home is safe to drink?”
(If yes): “Would you say you are very concerned or only a little concerned?”
Note: Numbers will not always appear to add correctly due to rounding.

Naturally, the severe drinking water crisis in Flint, Michigan, which was so prominently in the news around the time of this research, was in the forefront of many people’s minds. One focus group participant summed up the view of so many others, suggesting that such events could just as easily happen locally as they could in Flint:

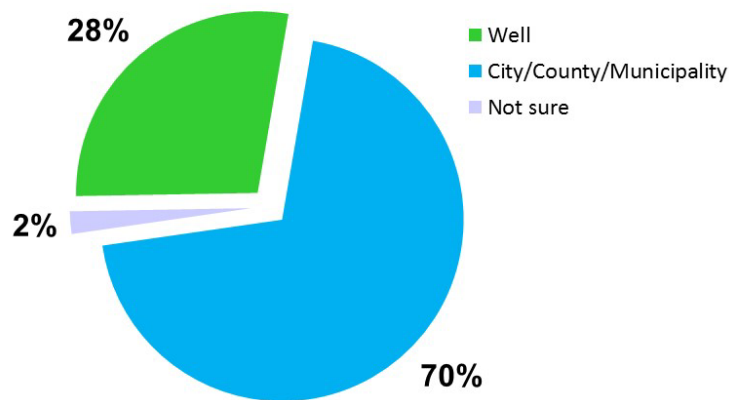
“Unfortunately, some of these things don't pop up for 20 to 25 years. Flint, Michigan was a good example and that happened pretty quickly, but who knows what the effect of water and drinking water will be on our children or children's children because it just hasn't surfaced yet. We don't know enough.”
– Suburban Focus Group Participant

May 2016

As measured by the DNS survey in late 2014, concern was much higher throughout the State of Delaware. In that survey, nearly four out of ten Delaware residents (38%) said they were “very concerned” about whether their own tap water at home was safe to drink, and another 29% were “a little concerned,” for a total of 67% who were concerned in Delaware, compared to 47% in the Pennsylvania portion of the Brandywine-Christina.

Note that there is almost equal concern among residents that have public water (15% very concerned, 47% total concerned) and those who have a private well (14% very concerned, 46% total concerned). According to the survey, 70% of the watershed’s residents receive their drinking water from a public source, and 28% from their own well, with 2% unsure.

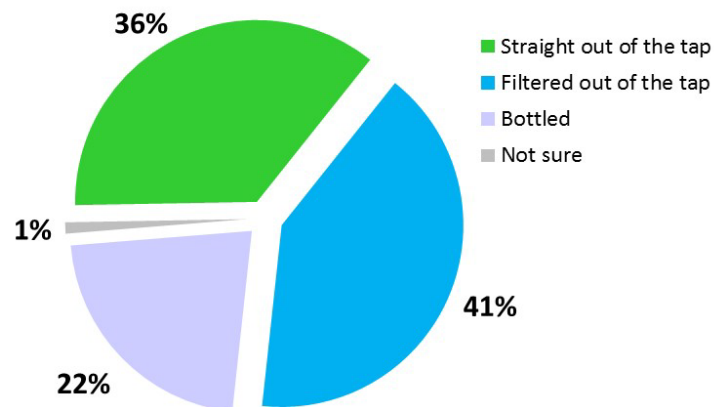
Drinking Water Source



“At home, do you get your drinking water from a private well, or does it come from your local city, county, or municipality?”

Only about one-third of residents (36%) are drinking the water at home straight out of the tap. Forty-one percent are filtering their tap water, and 22% are drinking bottled water.

Drinking Water from Tap, Filter, or Bottle



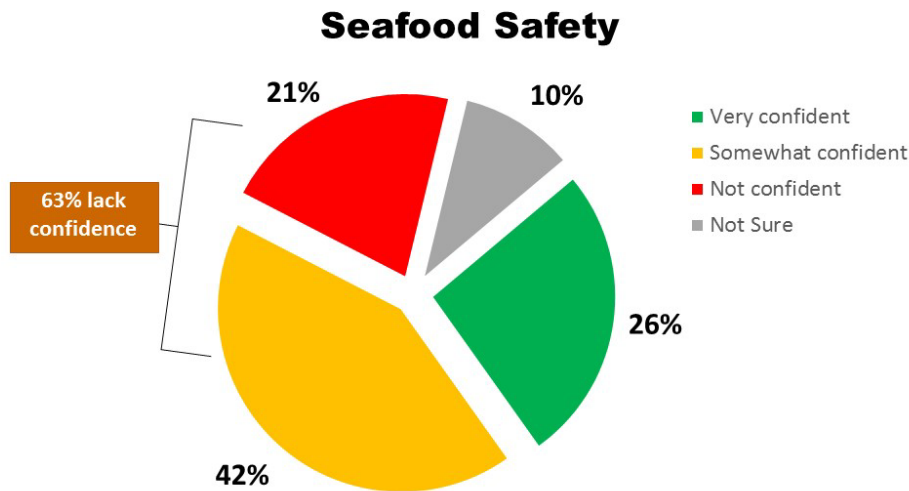
“Do you usually drink the water at home straight out of the tap, drink filtered water out of your tap, or drink bottled water?” (If more than one): “Which do you do most often?”

May 2016

Though their level of concern about the safety of the water is the same, 55% of residents with well water drink it straight out of the tap, compared to only 29% of those on public water. Regardless of the source, 26% of people with concerns about the safety of their drinking water drink it straight from the tap, compared to 46% of those with no concerns.

Confidence in Locally Caught Seafood

When it comes to locally-caught fish and shellfish, 21% of watershed residents are “not confident” that seafood coming out of local waters is safe to eat. Another 42% are only “somewhat confident,” indicating that nearly two-thirds (63%) of residents lack confidence in the safety of local seafood. Only about one-quarter of residents (26%) are “very confident” that local fish and shellfish are safe to eat.



“Are you very confident, somewhat confident, or not confident that the fish and shellfish that come out of local waters are safe to eat?”

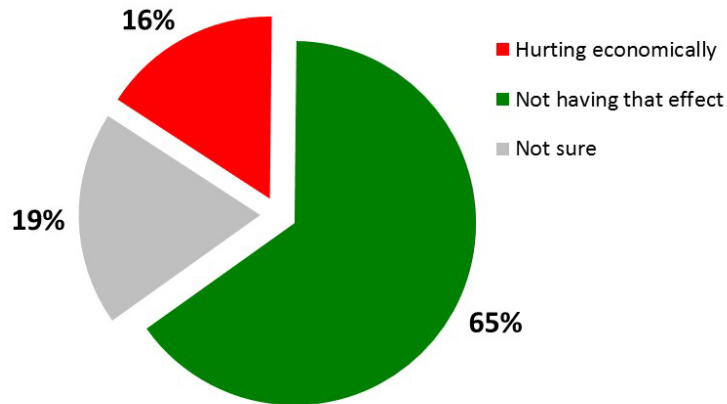
Numbers were slightly more negative in Delaware, where 31% in the DNS survey said they were not confident about the safety of local fish and crabs. Forty-four percent said they were somewhat confident, and fewer than one in five (18%) said they were very confident that local fish and crabs were safe.

Economic Impact of Water Pollution

Beyond drinking water and seafood concerns, there is little concern that polluted water is hurting the area economically. Only one-sixth (16%) of watershed residents said polluted water is having an economic effect, while 65% asserted that it is not having that effect and 19% were not sure.

May 2016

Economic Impact of Water Pollution



“Is polluted water in this part of Pennsylvania hurting the area economically, or is it not having that effect?”

This concern for an economic impact is much lower than that measured in Delaware, where over one-third of residents (37%) said they believed that polluted water hurts the state economically. Forty-two percent said polluted water was not having an economic effect, while 20% were not sure.

Local Flooding Impact

As one additional contextual issue, flooding in the immediate area where people live is a major concern of only 6% of residents, and a minor concern of another 23%, totaling 29% of residents who have a problem with localized flooding.

Flooding



“Is flooding a problem in the immediate area where you live? (If yes): Would you call flooding a major or only a minor problem?”

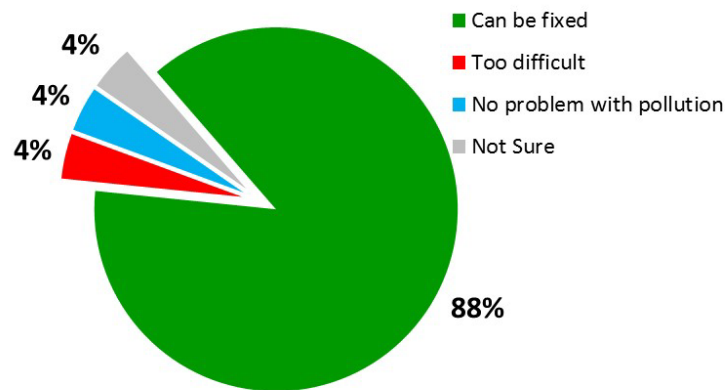
Flooding concerns were even lower in Delaware, where 7% called local flooding a major problem and 15% called it a minor problem, for a total of 22%.

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Confidence that Water Pollution Can Be Fixed

A belief that water pollution can be fixed and waters restored to health is key to engaging the public in water quality initiatives – whether personal stewardship or willingness to pay for restoration through a special fund. In the Pennsylvania portion of the Brandywine-Christina watershed, the news is very encouraging. An overwhelming 88% of residents believe that pollution in local waters can be fixed. Only 4% said the problem is too difficult to fix. Four percent insisted there is not a water quality problem, and the rest were not sure.

Confidence that Water Pollution Can be Fixed



“When you think about pollution in our local waters, do you think the problem can be fixed or is it too difficult?”

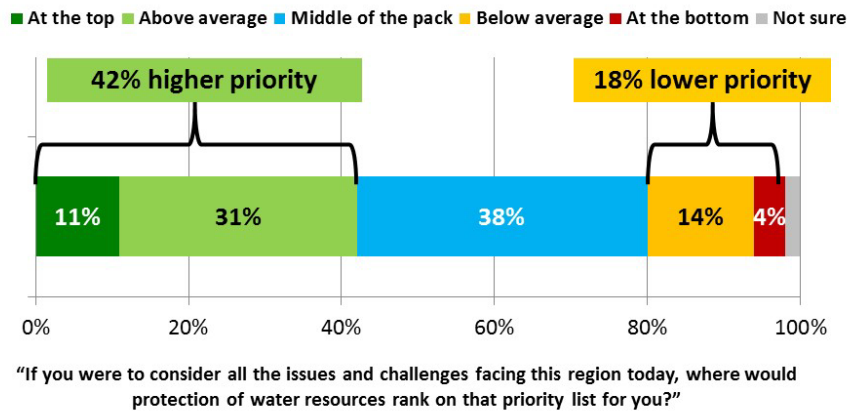
This compares favorably to the 82% across the State of Delaware who believe water pollution there can be fixed, as measured in the DNS survey. Across the full Chesapeake Bay watershed the comparable number is 91% who believe water pollution can be fixed, as measured in January 2016.

Personal Level of Concern for Water Resource Protection

Residents of this watershed have a strong underlying concern for protection of water resources. As a personal priority, considering “all the issues and challenges facing this region today,” 42% of residents called water protection an above-average priority (31%), or “at the top” (11%) of their list of priorities. This is more than twice as many as the 18% who place it “below average” (14%) or “at the bottom” (4%) of their list of priorities. Many others (38%) place protection of water resources “in the middle of the pack” of their concerns.

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Concern for Water Resource Protection



This is slightly higher than the level of concern for water protection expressed by Delaware residents in the DNS survey. There, 36% placed protection of water resources as a higher priority than others, 43% put it in the middle of the pack, and 19% called water protection a lower priority.

In the Brandywine-Christina watershed, the level of concern is elevated among these subgroups:

- Sixty percent of people who are “very concerned” about the safety of their drinking water at home place water resource protection at the top or as an above average priority, compared to 42% of the general population.
- Fifty-five percent of those who consider localized flooding a “major problem.”
- Fifty-two percent of those who are “not confident” about the safety of the local seafood supply.
- Fifty-four percent of those who think they have at least “somewhat” of an impact on water pollution personally.

The agricultural landowner focus group discussion was infused with a strong sense of trusteeship of the land – holding the land in trust for future generations and having a responsibility to leave it at least as healthy as they found it. For the focus group participants, this translated into an awareness and desire to treat the land well, and the water that flows through it.

“Lot of people don't realize I'm just a caretaker on this farm till the next generation takes over. I want to leave it better than when I found it. My son's going to be the fifth generation on the same piece of ground.”

“...I want to have the best possible water for the next generation and the next generation when I pass everything on. I don't want it to be where we may not be able to drink the water or something.”

– Agricultural Focus Group Participants

Many suburban residents in the watershed, as reflected in the focus group discussions, are well-intentioned and see their contribution to water quality through the lens of individual civic engagement and stewardship. They described their role as “vote,” “recycle,” “compost,” “reducing waste in general.” They tend to see the role of local non-profit organizations as advocacy, placing pressure on local elected officials to recognize water quality as a priority.

May 2016

But in terms of their own potential to volunteer locally, the suburban residents came up empty trying to think of specific local groups that work on water quality. Clearly, where that awareness is lacking, even well-intentioned people will not become volunteers. Notably, the agricultural focus group participants were much more knowledgeable about the organizations that are working on watershed restoration and protection locally, and seemed to have a ready awareness of how to plug in and volunteer, or find the expert help when they need that.

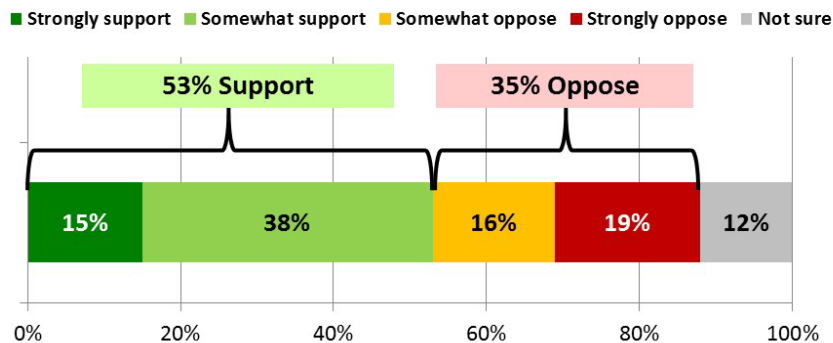
“The Chester County Conservation District, for example, will come to your farm and help you write a conservation plan which will minimize soil loss and keep the water running off your property as clean as possible. They actively do that now, and they do a good job.” – Agricultural Focus Group Participant

Support for the Concept of a Healthy Water Fee

Part of the mission of this project was to explore the willingness of the public to pay, broadly speaking, for water restoration efforts in this watershed. While the research did not examine specific revenue-raising mechanisms or amounts, it did examine overall willingness to pay, and under what circumstances.

As a basic measure, the survey tested residents’ level of support “if leaders in the State said more money would be needed to solve the problem of water pollution in Pennsylvania, and they proposed a monthly fee that was reasonable.” Under this theoretical construct, a majority of residents would support such a monthly fee. Fifty-three percent would support it, with 15% doing so *strongly*. Thirty-five percent would oppose such a fee, with 19% doing so *strongly*. Twelve percent were unsure. As a baseline, this question identifies an 18% margin of support for the concept of a fee to reduce water pollution.

Support for a Healthy Water Fee



“If leaders in the State said more money would be needed to solve the problem of water pollution in Pennsylvania, and they proposed a monthly fee that was reasonable, would you be likely to support or oppose that?”
 (If support/oppose): “Is that strongly or just somewhat {support/oppose}?”

Significant observations can be made about the propensity of population subgroups to support the concept of a fee, as summarized in the table on the following page:

- One’s own sense of environmental sensitivity is a very strong predictor of support, with those rating themselves high on the scale supporting a reasonable monthly clean water fee by about 40 points. “Average” environmentalists (“3” on the 5-point scale) exhibit a much lower level of support (+9%), while people who are low on the environmental scale (“2” or “1”) oppose it by 10 percentage points.

May 2016

- In partisan terms, Democrats are predisposed to support this concept by 44 percentage points, while Independent and third-party voters narrowly support it (+8%), and Republicans narrowly oppose it (– 5%).
- Women (+22%) and men (+14%) express similar support levels, with women slightly more favorably inclined.
- Whites support the proposal by 16 points, and Hispanics participating in the survey by an impressive 58 percentage points. Meanwhile, African-Americans and Asian residents are modestly predisposed *against* this idea; note that many Asians are undecided about this idea.
- The youngest age group in the survey, those under age 35, have the highest support levels for this concept (+34%). The next quartile (age 35 to 49, +3%) has the lowest margin of support. Support returns to higher levels over age 50 (50 to 64, +20%; 65 or older, +15%).
- Level of education, which is often a predictor of attitudes about public policy issues, has absolutely no bearing on support for this proposal. The margin of support falls within the range from +17% to +23% across all education levels.
- Agriculture, which was strongly opposed to Delaware’s clean water fee, expressed support in the Pennsylvania portion of the Brandywine-Christina watershed by a margin of 12 percentage points. Residents with no family ties to agriculture exhibited only slightly stronger support (+19%).
- The issue is a toss-up among residents on well water (+2%), while those on public water are strongly supportive (+24%).
- While residents who acknowledged that they contribute to water pollution at least “a little bit” support a water pollution fee by margins ranging from 26% to 28%, those who feel they impact water pollution “not at all” support a fee by a much smaller 6% margin.

(See table, next page.)

May 2016

Support for Healthy Water Fee by Subgroup

Subgroup	Support	Opposed	Margin
All Residents	53%	35%	+ 18%
Strong environmentalists (“5”)	62%	24%	+ 38%
Above average (“4”)	66%	20%	+ 46%
Average (“3”)	50%	41%	+ 9%
Low (“2” or “1”)	36%	46%	- 10%
Democrats	64%	20%	+ 44%
Republicans	43%	48%	- 5%
Unaffiliated Voters/Third Parties	48%	40%	+ 8%
Women	55%	33%	+ 22%
Men	51%	37%	+ 14%
Whites	52%	36%	+ 16%
African-Americans	39%	44%	- 5%
Asians	16%	37%	- 21%
Hispanics	72%	14%	+58%
Less than 35	63%	29%	+ 34%
35 – 49	43%	40%	+ 3%
50 – 64	56%	36%	+ 20%
65 or older	51%	36%	+ 15%
High school diploma or less	56%	33%	+ 23%
Some college	53%	35%	+ 18%
College graduate	52%	35%	+ 17%
Graduate work	52%	35%	+ 17%
Family involved in agriculture	55%	43%	+ 12%
No agricultural tie	53%	34%	+ 19%
Well water	45%	43%	+ 2%
Public water	56%	32%	+ 24%
Own behavior impacts water “a great deal” or “somewhat”	51%	25%	+26%
Impacts the water “a little”	60%	32%	+ 28%
Impacts the water “not at all”	47%	41%	+ 6%

Of course, many people would feel better if contributions to such a fund were voluntary. People do not like new taxes, and this local watershed is no different than others in that regard. This is not to say that residents would react negatively to a compulsory fund, as the support numbers indicate, but only that they would *prefer* for the fund to be voluntary – and they like to think that they would probably be among the contributors.

“I think the option should be given to you on your monthly bill or your quarterly bill. I think we pay quarterly. Would you care to pay ten dollars towards a water purification fund or something? Behind it there was an explanation of what it went to, some type of sources and uses statement which spelled out what it was for. Check a box, add ten dollars to your bill, yes/ no.” – Suburban Focus Group Participant

The prospect of a new compulsory tax or fee made some focus group participants “nervous.” Agriculturalists pointed out that there are already many revenue streams through federal and state

May 2016

agencies such as NRCS and others, and that part of the battle is just ensuring that the local area gets its fair share of existing revenues.

Focus group participants were also clear that they would be much more comfortable with a fund that was administered by an independent not-for-profit organization, not the government.

“I would feel more comfortable with the not-for-profit with a specific grant that also had reporting responsibilities...not government-run.” – Suburban Focus Group Participant

The suburban residents did not have a specific non-profit that they admired or would find particularly credible to administer the fund. But the agricultural focus group repeatedly cited the Stroud Water Research Center in Avondale, Pennsylvania, as the organization with the expertise and credibility to impartially administer the fund. The respect for this organization is very high. If not them, another entity of similar perceived independence and impartiality should be identified to administer a future Healthy Water Fund, participants thought. The Brandywine Conservancy was mentioned as a possible alternative.

In addition to independent administration, and despite a hope that the fund would be voluntary, in the end focus group participants said they would feel better about the fund if everyone paid into it.

*“Everybody should pay into the fund...because everyone uses the water supply.”
– Suburban Focus Group Participant*

Residents’ Highest Priorities for a Healthy Water Fund

The research tested ten possible areas of focus for funding from a prospective Healthy Water Fund. The tested priorities were:

- Upgrading waste water treatment plants
- Protecting and improving drinking water
- Removing toxic chemicals from the water
- Providing funding to help the local agricultural industry meet its pollution requirements
- Reducing erosion and flooding in your neighborhood or on your property
- Protecting and restoring wetlands and forests to help absorb stormwater
- Planting trees and plants in our cities and towns
- Eliminating bacteria and viruses from sewage and dog waste
- Ensuring the safety of fish and shellfish that you might eat
- Making the water a safe place to play for kids and pets

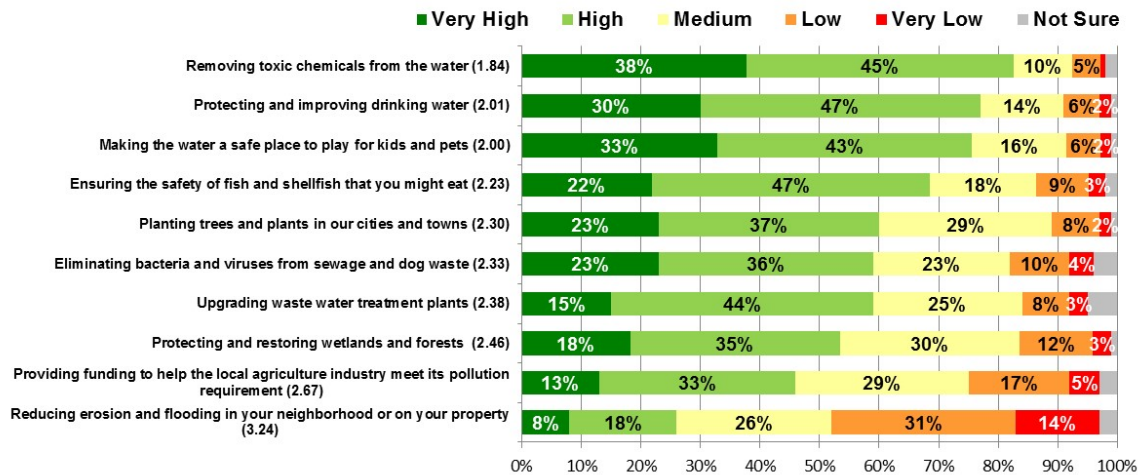
Each priority was rated by survey participants on a five-point scale, indicating their opinion of how important it is as “a priority that needs to be addressed.” The scale was “very high,” “high,” “medium,” “low,” and “very low.” The illustration below indicates how each of these priorities scored, ranked from highest to lowest. Also included is a mean, computed with “very high” equal to 5 and “very low” equal to 1.

The highest-scoring priority is “removing toxic chemicals from the water,” which was rated a “very high” or “high” priority by 83% of the survey participants.

May 2016

Priorities for Health Water Fund

Mean in (); Very high=1, Very low=5



“I would like to read you some of the specific ways this fee would be used. Regardless of whether you think a fee itself is a good idea, please tell me if each specific area I mention is a priority that needs to be addressed somehow.

Use the scale very high, high, medium, low, or very low priority.”

For mean calculation, Very High=1, High=2, Medium=3, Low=4, Very Low=5.

Focus group discussion revealed a profound concern among residents about the possibility of toxins in the water. They understood there to be direct links to their health, and expressed the importance viscerally of addressing toxins.

“I mean that sounds like it should be a focus. One of the most dangerous things that could affect everyone. It affects the people. It affects the infrastructure delivering it to the people. That would be one of the highest things to do first with the money I guess.” – Suburban Focus Group Participant

“I mean the toxic chemicals kill the environment. Kill the fish, the birds. It gets in the drinking water. It hurts your kids. It does everything. Everything else is okay. We can deal with (everything else).” – Suburban Focus Group Participant

Not only do toxins frighten residents, given their highly potent health impacts, but their presence also created a sense of urgency to act. In focus group discussion, it was evident that the prospect of “toxins” in the water was highly motivating. One participant, in fact, spelled out the idea that toxic discharges, or poisonous legacy pollution, can create a sense of “crisis” that might be needed to motivate many average people to support an initiative like water restoration through a Healthy Water Fund.

“I think, again, if it was identified as being an emergency and something was directly related to the water being in poor quality, then additional resources might be focused on it.”

– Suburban Focus Group Participant

Rounding out the top tier of priorities were these

- Protecting and improving drinking water (78% very high or high priority),
- Making the water a safe place to play for kids and pets (76%), and
- Ensuring the safety of fish and shellfish you might eat (68%).

Note that these all relate to the most personal impacts of poor water quality – those that would affect one’s own, or the family’s, health and safety. Somewhat less important to residents are those related to planting greenery, upgrading infrastructure, and the like. Though important in their own right, they do

May 2016

not achieve top-level importance for residents because their impact is at least one step removed from the individual and his or her family. Please note that this line of discussion is not a policy recommendation for how a future Healthy Water Fund should prioritize its spending, but only a recommendation for what aspects of the Fund to emphasize with the public in order to secure their engagement and support.

One other priority bears a special mention. “Providing funding to help the local agriculture industry meet its pollution requirements” is only slightly more important to agricultural families, with 49% rating it a very high or high priority, compared to 45% of non-agricultural residents. In a practical sense, however, it is appreciated by farm operators, as pointed out by this focus group participant:

“That is a key to helping things happen. Landowners generally want to do the best job they can to minimize pollutant runoff on their land, and having someone invest along with them is great...It costs a lot of money to do the improvements we're talking about, and having cost share funding's very important.”

– Agricultural Focus Group Participant

In the end, the knowledgeable farm participants said they would like the independent experts at the Stroud Water Research Center to decide what the top priorities for the Fund should be.

“They're running their studies. They've been in that industry.

“...so they know. “

“They should be able to know.”

“Yeah, they would be well-equipped.”

“They know how to prioritize the most.”

– Agricultural Focus Group Participants

Administration of the Fund

Both suburban residents and agriculturalists in the focus groups exhibited a very strong willingness to spend money from such a fund where it is needed, even if that is upstream and well outside of their own township's boundaries. They expressed an intuitive understanding that money spent carefully upstream could avoid much bigger problems downstream. They were ready to unshackle administrators of such a fund to spend the money where it will have the most impact, as long as they, personally, would eventually see some benefit. Succinctly summing up this point of view, a suburban resident said,

“Yeah, (it's okay if some of the funds go to other parts of the region) because it's going to affect you eventually. Water flows downstream.” – Suburban Focus Group Participant

An agricultural participant summed up an unrealistic level of impatience to see results, however:

“I would like to know how long it's going to take for me to feel the benefit either way. Do you see what I'm saying?...If you're getting cleaner, if you're getting public water and we're cleaning up the streams, you should feel it right away because they're going to have to use less chemicals to clean that water... (I would like to see it) in a month.” – Agricultural Focus Group Participant

In communicating with the public, part of the challenge will be to create a sense of patience, that investments now will take some time before they are directly felt by watershed residents.

In a related theme, the agricultural focus group participants stressed the positive role of a fund as a preventative. The concept of spending a little money now to prevent a much bigger problem later was very appealing to participants.

May 2016

"I'd rather do it in the beginning. That's why I was willing to give a little money because I don't want to do it later. I don't want to have to say, 'Okay, it's a mess now, and we need ten million dollars to clean it up.'"
– Agricultural Focus Group Participant

Language

As a guide to help structure conversation with the public, several words and phrases were tested to understand the associations they call to mind. It is always important to choose words that encourage and engage public conversation, rather than placing unanticipated barriers in front of that conversation. This exercise helps pinpoint the words that engage the public most readily.

- “Polluted” vs. “contaminated” vs. “toxic” represented a hierarchy to focus group participants. Polluted is the least serious, and toxic is the most severe of the three. Like toxic, focus group participants said contaminated means “poisoned,” whereas polluted simply means “dirty” or “compromised.” For some, “toxic” is extreme and may not be able to be fixed. Using a word like contaminated, they said, creates urgency, while providing a sense that the water can be repaired.

“‘Contaminated’ is a better word... Everything's a little ‘polluted’ already, right? So contaminated is...that's Flint. So if you go to these guys and you go, ‘We're going to raise your taxes because the water is contaminated,’ then we'll probably push something like that through.”
– Suburban Focus Group Participant

- “Fund” is more positive than “tax” or “fee,” both of which sound compulsory. “Fund” also conveyed the idea that “it would have specialized oversight,” which is a strong positive to chronically skeptical taxpayers.

“‘Fund’ means we're gathering a lot of money, and we're hoping you will help us. It gives us hope.”
– Agricultural Focus Group Participant

- All three terms, “clean water,” “healthy water,” and “water quality” tested positively and had their advocates. There was no consensus on which term was more compelling. Though it was not heard here, it is typical that “clean” conveys the idea that the water is clear and fresh. But “clean” does not preclude the possibility that something has been added to the water to make it that way. “Healthy,” on the other hand, normally conveys a sense that the water is in a more natural state, healthy for both humans and aquatic life.
- “Runoff” is more likely to contain contaminants than is “stormwater,” participants said.
“Runoff left the property. Stormwater is just water that comes from a storm.”
– Agricultural Focus Group Participant
- “Excess fertilizer” is a much more understandable term for most people, focus group participants agreed, compared to “nutrients,” which will be thought to be a good thing.

May 2016

Conclusions

The concept of a Healthy Water Fund enjoys support from a majority of the public. Residents have many water quality concerns, but continue to believe that water pollution problems can be fixed.

Both residents and agricultural producers put important caveats on their support for a Healthy Water Fund. Advocates will need to address the public's desire to have the fund independently administered and accept contributions voluntarily. The public will also need to be counseled to have patience, not expecting to see water quality improvements quickly.

Through it all, reminding the public that the impacts of contamination in local waters are *personal* will be the best way to build support. Gradually persuading the public that everyone is contributing to contamination of the waters will spread ownership and ultimately build support.

This research provides guidance for public outreach to support the concept of a Healthy Water Fund, based on the perceptions and attitudes of key audiences. Thank you for the opportunity to undertake this important work to help bring about cleaner, healthier waters in the Brandywine-Christina watershed.

OpinionWorks LLC
August 2016

How This Research Was Conducted

Watershed Survey

For this survey, OpinionWorks interviewed 300 randomly-selected adult residents of the Pennsylvania portion of the Brandywine-Christina watershed in May 2016. The interviews were conducted by telephone and administered by trained and supervised live interviewers who are skilled in opinion research best practices.

This survey has a potential sampling error of no more than $\pm 5.6\%$ at a 95% confidence level, meaning that at least 95% of the time the survey results would differ by no more than that margin if every adult resident of the study area had been interviewed.

Interviewees were drawn randomly from commercially-available databases of area residents and matched with landline and wireless telephone numbers. Zip code boundaries were used as a practical way to come close to the actual watershed boundaries. The sample was balanced geographically and demographically during interviewing. Weights were applied to bring the survey sample into compliance with the demographic breakdown of the watershed's population.

Focus Groups

The qualitative research method of focus groups allows deep exploration, reaching the emotional level where people form views and make many decisions. This technique is helpful for providing context and helping to answer "why" questions. Through this method, a small number of people gather around a table with a professional facilitator who is knowledgeable and skilled at affirming and including everyone's viewpoint. Participants are, as much as possible, grouped with others of similar background and outlook to provide a positive, reinforcing energy to the discussion.

May 2016

In this case, one focus group was held among each of these two audience segments on the evening of May 12 at the New Garden Township Building:

- Suburban residents
- Agricultural producers

A total of 13 people participated, having been screened to be civically aware as measured by voting and/or paying attention to local news and information. Self-described “strong environmentalists” were screened out of the discussion because it was anticipated they would have a predisposition to favor the Healthy Water Fund and would not reflect the mainstream of opinion in the watershed. Participants were compensated to attend the focus groups and offer their honest thoughts and opinions.

2

Survey Questionnaire

N=300 adult Pennsylvania residents of the Brandywine-Christina watershed; fielded May 2016
*=can be compared to Delaware statewide survey conducted for Delaware Nature Society, December 2014.

Introduction and Screening

Hello, my name is _____ calling from OpinionWorks, an independent research firm. We are conducting a brief survey on issues affecting southeastern Pennsylvania and are not selling anything. May I speak with the youngest (*gender rotation*) adult who is home right now?

(If necessary):

S1. Are you at least 18 years old?

Yes.....100%
No/Not sure (*Seek another qualifying household resident.*)

S2. Before we begin, I need to know if I have reached you on a cell phone. (If yes): Are you in a place where you can talk safely without endangering yourself or others?

No, not on cell 69%
Yes, cell and can talk safely 31%
Yes, cell but cannot talk safely (*Seek callback time and telephone number.*)
Refused to say/Not sure (*Thank and terminate.*)

S3. Just to confirm, in what Pennsylvania county do you live?

Chester 91%
Delaware..... 7%
Lancaster 2%
Other (*Thank and terminate.*)
Not sure/Refused to say (*Thank and terminate.*)

S4. What is your 5-digit zip code at home? (*Record 5-digit zip.*)

19311 (Avondale)..... 4%
19317 (Chadds Ford) 1%
19320 (Coatesville) 17%
19330 (Cochranville) 3%
19335 (Downington) 17%
19341 (Exton)..... 4%
19342 (Glen Mills) 4%
19343 (Glenmoore) 3%
19344 (Honey Brooke) 1%
19348 (Kennet Square) 4%
19350 (Landenburg) 3%
19365 (Parkesburg)..... 3%
19380 (West Chester) 12%
19382 (West Chester) 15%
19390 (West Grove) 1%
19425 (Chester Springs) 3%
19520 (Elverson)..... 3%

N=300 adult Pennsylvania residents of the Brandywine-Christina watershed; fielded May 2016

*=can be compared to Delaware statewide survey conducted for Delaware Nature Society, December 2014.

Perceptions of the Water

1. *Can you picture in your mind the closest stream, lake, or river to your home? (If yes): What is its name?

(Do not read):

Yes, can picture it (Specify name.)	74%
Yes, can picture it; do not know name	14%
Yes, can picture it; too small to have a name	2%
No, cannot picture it	10%
Not sure	*%

Brandywine River/Creek.....	68%
White Clay Creek	4%
Marsh Creek	3%
Delaware River.....	3%
Red Clay Creek.....	2%
Chester Creek.....	2%
Other.....	17%

2. *Students are often given the grades of A, B, C, D, or Fail. If I were to ask you to grade the health of the stream, lake, or river closest to your home on that A to F scale where “A” means it is extremely clean and healthy, and “F” means it is extremely polluted and unhealthy, what grade would you give it?

A (4)	17%
B (3)	37%
C (2)	27%
D (1)	5%
F (Fail) (0)	2%
Not sure	12%
Mean.....	2.73

3. *Do think often, sometimes, very little, or never about how clean and healthy our local streams, creeks, and rivers are?

Often	28%
Sometimes	36%
Very little	19%
Never	13%
Not sure	3%

4. Do you think the health of local waters is generally (randomize): [getting better, getting worse, (or) staying about the same] compared to a few years ago?

Better	17%
Same	42%
Worse	30%
Not sure	11%

N=300 adult Pennsylvania residents of the Brandywine-Christina watershed; fielded May 2016

*=can be compared to Delaware statewide survey conducted for Delaware Nature Society, December 2014.

5. When it comes to your own impact, do you think you are contributing to water pollution a great deal, somewhat, a little bit, or not at all?

A great deal.....	2%
Somewhat	15%
A little bit	39%
Not at all.....	44%
(Do not read): Not sure/Refused to say	1%

6. *At home, do you get your drinking water from a private well, or does it come from your local city, county, or municipality?

Well.....	28%
City/County/Municipality	70%
Not sure	2%

7. Do you usually drink the water at home straight out of the tap, drink filtered water out of your tap, or drink bottled water? (If more than one): Which do you do most often?

Straight out of the tap	36%
Filtered out of the tap	41%
Bottled.....	22%
Not sure	1%

8. *Are you ever concerned about whether your own tap water at home is safe to drink? (If yes): Would you say you are very concerned or only a little concerned?

Very concerned.....	15%
A little concerned.....	31%
<i>Total Concerned</i>	47%
Not concerned.....	53%
Not sure	1%

9. *Is flooding a problem in the immediate area where you live? (If yes): Would you call flooding a major or only a minor problem?

Major problem	6%
Minor problem	23%
<i>Total Problem</i>	29%
Not a problem.....	70%
Not sure	*%

10. *Are you very confident, somewhat confident, or not confident that the fish and shellfish that come out of local waters are safe to eat?

Very confident.....	26%
Somewhat confident.....	42%
Not confident.....	21%
<i>Total Lacking Confidence</i>	63%
Not sure	10%

N=300 adult Pennsylvania residents of the Brandywine-Christina watershed; fielded May 2016

*=can be compared to Delaware statewide survey conducted for Delaware Nature Society, December 2014.

11. Do you or others in your family swim, fish, or boat in the rivers or streams near where you live often, sometimes, very little, or never?

Often	14%
Sometimes	27%
<i>Total Often + Sometimes</i>	41%
Very little	20%
Never	39%
Not sure	1%

12. *When you think about pollution in our local waters, do you think the problem can be fixed or is it too difficult?

Can be fixed	88%
Too difficult.....	4%
<i>(Do not read):</i>	
There is not a problem with pollution	4%
Not sure	4%

13. *Is polluted water in this part of Pennsylvania hurting the area economically, or is it not having that effect?

Hurting economically	16%
Not having that effect	65%
Not sure	19%

Public Policy

14. *If you were to consider all the issues and challenges facing this region today, where would protection of water resources rank on that priority list for you? *(Read list.)*

At the top.....	11%
Above average	31%
<i>Total High</i>	42%
In the middle of the pack	38%
Below average	14%
At the bottom.....	4%
<i>Total Low</i>	18%
<i>(Do not read):</i> Not sure/Refused.....	1%

15. *If leaders in the State said more money would be needed to solve the problem of water pollution in Pennsylvania, and they proposed a monthly fee that was reasonable, would you be likely to support or oppose that? *(If support/oppose):* Is that strongly or just somewhat {support/oppose}?

Strongly support	15%
Somewhat support	38%
<i>Total Support</i>	53%
Somewhat oppose	16%
Strongly oppose	19%
<i>Total Oppose</i>	35%
Not sure/Depends/Refused	12%

N=300 adult Pennsylvania residents of the Brandywine-Christina watershed; fielded May 2016

*=can be compared to Delaware statewide survey conducted for Delaware Nature Society, December 2014.

Priorities

16. I would like to read you some of the specific ways this fee would be used. Regardless of whether you think a fee itself is a good idea, please tell me if each specific area I mention is a priority that needs to be addressed somehow. Use the scale very high, high, medium, low, or very low priority.

	Very High (1)	High	Medium	Low	Very Low (5)	Not sure/ Refused	Mean
A. Upgrading waste water treatment plants	15%	44%	25%	8%	3%	5%	2.38
B. Protecting and improving drinking water	30%	47%	14%	6%	2%	1%	2.01
C. Removing toxic chemicals from the water	38%	45%	10%	5%	1%	2%	1.84
D. Providing funding to help the local agriculture industry meet its pollution requirement	13%	33%	29%	17%	5%	3%	2.67
E. Reducing erosion and flooding in your neighborhood or on your property	8%	18%	26%	31%	14%	3%	3.24
F. Protecting and restoring wetlands and forests to help absorb stormwater	18%	35%	30%	12%	3%	1%	2.46
G. Planting trees and plants in our cities and towns	23%	37%	29%	8%	2%	1%	2.30
H. Eliminating bacteria and viruses from sewage and dog waste	23%	36%	23%	10%	4%	4%	2.33
I. Ensuring the safety of fish and shellfish that you might eat	22%	47%	18%	9%	3%	2%	2.23
J. Making the water a safe place to play for kids and pets	33%	43%	16%	6%	2%	1%	2.00

N=300 adult Pennsylvania residents of the Brandywine-Christina watershed; fielded May 2016
 *=can be compared to Delaware statewide survey conducted for Delaware Nature Society, December 2014.

Focus Group Pre-Screen

17. Sometimes we want to get together with a small group of people in a focus group to talk in more detail about these issues. This is market research, not an attempt to sell you anything. This discussion will occur in the third week of December, and participants will be paid \$75 for about two hours of their time. Should we decide to do that, how interested would you be in participating if the discussion were held at a convenient time for you? *(Read categories.)*

Definitely <i>(Confirm name, email, phone number.)</i>	13%
Probably <i>(Confirm name, email, phone number.)</i>	14%
About 50/50.....	22%
Not that interested	48%
<i>(Do not read):</i> Not sure/Refused.....	2%

Classifying the Survey

(All):

C1. These last few questions are to classify the survey only. What is your age? *(Read categories until stopped.)*

Less than 35	27%
35 to 49	29%
50 to 64	26%
65 or more.....	17%
<i>(Do not read):</i> Not sure/Refused.....	*%

C2. What is the last grade in school that you completed?

(Do not read list):

Less than 12th grade.....	2%
12th grade/High school diploma	24%
Some college/Associate’s degree.....	28%
Four-year degree/Bachelor’s degree	26%
Graduate work/Advanced degree	20%
Not sure/Refused	*%

C3. Do you own or rent your home?

Own	78%
Rent	18%
Not sure/Refused	4%

C4. Is your family involved in farming or agriculture?

Yes.....	11%
No	89%
Not sure/Refused	*%

N=300 adult Pennsylvania residents of the Brandywine-Christina watershed; fielded May 2016

*=can be compared to Delaware statewide survey conducted for Delaware Nature Society, December 2014.

C5. Are you registered to vote? (If yes): Are you registered as a Democrat, a Republican, with a third party, or are you not affiliated with a political party?

Democrat	32%
Republican	29%
Third party	2%
Not affiliated/ Independent.....	20%
Registered but won't disclose party or not sure	7%
Not registered/ Not sure if registered.....	10%

C6. On a scale of 1 to 5, where 5 means you consider yourself to be a strong environmentalist, 3 is average, and 1 is not an environmentalist at all, where would you put yourself?

5 (Strong environmentalist)	16%
4.....	20%
3 (Average)	48%
2.....	7%
1 (Not environmentalist at all).....	8%
Not sure/Refused to say	*%
Mean	3.29

C7. Are you Hispanic or Latino?

Yes.....	7%
No	92%
Not sure/Refused	1%

C8. Do you most closely identify your race as (randomize): [White, African-American, Asian], or some other? (Allow multiple.)

White.....	86%
African-American/Black	6%
Asian	3%
Other.....	1%
Not sure/Refused	6%

(Not asked; by observation):

C9. Gender

Male	50%
Female	50%

That's all the questions I have for you. Thank you for your time. Goodbye.

N=300 adult Pennsylvania residents of the Brandywine-Christina watershed; fielded May 2016

*=can be compared to Delaware statewide survey conducted for Delaware Nature Society, December 2014.

Brandywine River
Brandywine River
Brandywine River
Brandywine River
Brandywine River
Brandywine River
Brandywine River
Brandywine River
Brandywine River
Brandywine River
Brandywine River
Brandywine River
Brandywine River
Brandywine River
Brandywine River
Brinton Lake
Broad Run
Buck Run
Chambers Lake
Chambers Lake
Chester Creek
Chester Creek
Dela River
Delaware River
Delaware River
Delaware River
Ed Clay
Ellis Lake
French Creek
Grubbs Mill
I think it is called "little duck pond" or something similar, I'm not 100% sure.
I think it's called Blackhorse Run Creek
Lloyd Creek
Marsh Creek
Marsh Creek
Marsh Creek
No idea
North Bank
Oak Creek
Quiet Stream Brandywine River
Randywine
Red Clay
Red Clay Creek
Schuylkill
Schuylkill river
Shomona Creek
South Lake
Summerset Lake
The Beaver Creek
The Brandywine
The Brandywine Creek
The East Branch of the Brandywine River
The Octorara
The reservoir
There is a pond out back, it does not have a name.
West Branch
West Valley Creek
White Clay

N=300 adult Pennsylvania residents of the Brandywine-Christina watershed; fielded May 2016

**=can be compared to Delaware statewide survey conducted for Delaware Nature Society, December 2014.*

White Clay Creek
White Clay Creek
White Clay Creek

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 1. Can you picture in your mind the closest stream, lake, or river to your home? IF YES: What is its name?

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG===				=====PARTY ID=====				=ENVIRONMENTALISM==			
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr anic	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Othr	Ind/ Not Reg	High 5	Avg 4	Low 3	1-2		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)		
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45		
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46		
Yes can picture it	221	101	120	198	13	5	2	12	53	62	66	40	183	35	26	195	71	69	65	16	43	52	102	25		
	74%	68%	80%	78%	72%	46%	100%	55%	65%	72%	84%	79%	79%	66%	82%	73%	74%	81%	75%	54%	90%	86%	71%	55%		
			B				DEFh				Ij							t			WX	wX	x			
Yes can picture it; do not know name	41	24	17	38	1	2	-	-	16	10	12	3	31	8	5	36	14	12	14	1	4	6	20	11		
	14%	16%	12%	15%	8%	22%			19%	12%	15%	7%	13%	16%	16%	14%	14%	15%	16%	4%	8%	11%	14%	23%		
											1													u		
Yes can picture it; too small to have a name	4	3	1	3	-	-	-	-	-	3	1	1	3	2	1	4	-	1	2	2	-	1	4	-		
	2%	2%	1%	1%						3%	1%	2%	1%	4%	2%	1%		1%	2%	7%		1%	3%			
No, cannot picture it	29	20	10	14	4	3	-	10	13	11	1	5	15	7	-	29	11	3	5	11	1	2	18	9		
	10%	13%	6%	6%	20%	32%		45%	16%	13%	1%	9%	6%	14%		11%	11%	4%	5%	36%	2%	3%	12%	19%		
			C		d				K	K		K					R			QRS			UV	UV		
(DO NOT READ) Not sure	1	-	1	1	-	-	-	-	-	-	-	1	1	-	-	1	-	-	1	-	-	-	-	1		
	*%		1%	*%								2%	*%			*%			1%					3%		

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 1. Can you picture in your mind the closest stream, lake, or river to your home? IF YES: What is its name?

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Ofn Some	Lttl Nev	High	Midl	Low	Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Yes can picture it	221	56	63	56	45	69	147	36	66	117	68	152	61	92	45	102	117	98	90	31	37	86	96
	74%	72%	76%	74%	74%	82%	71%	79%	71%	75%	78%	73%	79%	73%	72%	85%	67%	79%	79%	56%	75%	75%	74%
							g									Q		T	T				
Yes can picture it; do not know name	41	9	11	14	8	9	31	7	10	24	6	35	14	12	11	15	26	13	15	13	5	18	18
	14%	12%	13%	18%	13%	11%	15%	16%	11%	15%	7%	17%	18%	9%	18%	13%	15%	10%	13%	24%	10%	16%	14%
												K								r			
Yes can picture it; too small to have a name	4	-	2	1	1	1	3	1	2	1	2	3	-	2	1	2	2	1	3	-	1	2	2
	2%		2%	2%	2%	1%	2%	2%	2%	1%	2%	1%		2%	2%	2%	1%	1%	3%		1%	2%	2%
No, cannot picture it	29	11	7	5	6	4	25	1	15	13	12	18	2	20	4	1	28	11	5	11	7	9	13
	10%	14%	8%	6%	11%	5%	12%	2%	16%	8%	13%	8%	3%	16%	6%	1%	16%	9%	5%	20%	14%	8%	10%
							F		Hj	h				MO			P			RS			
(DO NOT READ) Not sure	1	1	-	-	-	-	1	-	-	1	-	1	-	-	1	-	1	1	-	-	-	-	1
	*%	1%					1%			1%		1%			2%		1%	1%					1%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 2. Students are often given the grades of A, B, C, D, or Fail. If I were to ask you to grade the health of the stream, lake, or river closest to your home on that A to F scale where "A" means it is extremely clean and healthy, and "F" means it is extremely polluted and unhealthy, what grade would you give it?

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG===		=====PARTY ID=====				=ENVIRONMENTALISM=			
	ALL	Male	Female	White	Afr- Amer	As- ian	Hisp	Othr	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
A (4)	51	27	25	47	1	-	-	2	7	14	18	12	43	5	9	41	14	21	11	6	12	6	24	10
	17%	18%	16%	19%	4%			8%	8%	17%	23%	24%	19%	11%	29%	16%	15%	24%	13%	19%	25%	10%	16%	21%
				E							I	i								v				
B (3)	111	55	55	90	5	7	1	10	22	38	34	17	87	14	7	104	33	33	29	16	18	23	56	14
	37%	37%	37%	35%	24%	69%	23%	46%	27%	44%	44%	33%	38%	27%	22%	39%	35%	38%	34%	53%	38%	38%	39%	31%
					dE					i	i					o								
C (2)	80	45	35	73	7	-	2	7	33	17	17	12	54	25	13	67	25	27	23	5	7	19	45	9
	27%	30%	24%	29%	37%		77%	32%	41%	20%	22%	23%	23%	48%	42%	25%	26%	31%	27%	18%	16%	31%	31%	20%
							d		Jk					M									U	
D (1)	14	5	10	12	1	2	-	-	5	5	2	2	13	1	2	12	5	1	8	1	1	8	5	1
	5%	3%	6%	5%	6%	16%			6%	6%	3%	4%	6%	2%	8%	4%	5%	1%	9%	4%	2%	13%	3%	2%
																			R			uw		
F (Fail, 0)	4	2	2	2	2	-	-	-	2	1	1	1	4	-	-	4	2	-	3	-	2	1	2	-
	2%	2%	1%	1%	12%				2%	1%	1%	2%	2%			2%	2%		3%		3%	1%	2%	
					d																			
(DO NOT READ) Not sure	37	15	22	30	3	2	-	3	13	10	6	8	30	6	-	37	17	5	13	2	8	5	13	12
	12%	10%	15%	12%	17%	16%		13%	16%	12%	7%	15%	13%	12%		14%	18%	6%	15%	7%	16%	8%	9%	26%
																	R		r					VW
Mean	2.73	2.74	2.71	2.75	2.03	2.63	2.23	2.73	2.40	2.79	2.90	2.85	2.75	2.52	2.72	2.72	2.67	2.91	2.52	2.93	2.93	2.47	2.72	2.96
				E						i	I	i						qS		s	V		v	V

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
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	=====EDUCATION=====				==WATER==		DRINKING WATER			=FLOODING		CONFIDENCE IN			IN WATER=		WATER PRIORITY			==OWN IMPACT==			
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Muni Well	cple	Very	Lttl	Not	Prob lem	Not Prob	LOCAL Very	SEAFOOD Some	Not	Oftrn Some	Lttl Nevtr	High	Midl	Low	Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
A (4)	51	12	17	13	9	23	26	5	11	35	15	36	23	18	4	17	34	26	16	8	7	13	28
	17%	15%	21%	17%	15%	28%	13%	12%	12%	22%	17%	17%	30%	14%	7%	14%	20%	21%	14%	15%	15%	12%	21%
						G				hi			NO										
B (3)	111	23	33	28	26	33	77	8	40	62	42	68	25	54	24	48	61	45	46	19	16	57	37
	37%	29%	40%	37%	44%	39%	37%	17%	43%	40%	49%	33%	32%	42%	38%	40%	35%	36%	40%	35%	33%	50%	28%
									H	H	L											uW	
C (2)	80	31	16	23	10	18	60	22	22	36	17	62	20	32	22	41	39	29	37	13	12	30	38
	27%	40%	19%	30%	17%	21%	29%	50%	24%	23%	20%	30%	26%	26%	36%	34%	22%	23%	32%	23%	25%	26%	29%
			CE						IJ						q								
D (1)	14	3	2	7	2	1	13	5	5	5	7	8	3	5	3	8	6	9	3	2	1	3	11
	5%	4%	2%	10%	3%	1%	6%	10%	5%	3%	8%	4%	4%	4%	4%	7%	3%	7%	3%	4%	1%	2%	8%
				Ce			F																Uv
F (Fail, 0)	4	2	1	1	1	4	-	2	2	-	2	2	-	1	4	1	4	3	1	1	2	-	2
	2%	3%	1%	1%	1%	5%		5%	2%		3%	1%		*	6%	1%	2%	2%	1%	2%	5%		2%
															n								
(DO NOT READ) Not sure	37	6	14	5	12	6	31	3	13	19	4	33	6	17	5	6	30	12	11	12	10	12	14
	12%	8%	17%	7%	19%	7%	15%	6%	14%	12%	4%	16%	8%	13%	8%	5%	17%	10%	10%	21%	21%	10%	11%
			d		D		F					K				P				rs	v		
Mean	2.73	2.55	2.92	2.63	2.86	2.88	2.67	2.21	2.66	2.92	2.73	2.73	2.96	2.76	2.38	2.63	2.80	2.74	2.72	2.73	2.67	2.79	2.66
			BD		b	g			H	HI			O	O									

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 3. Do think often, sometimes, very little, or never about how clean and healthy our local streams, creeks, and rivers are?

	=GENDER==		=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====			=====PARTY ID=====		=ENVIRONMENTALISM==					
	ALL	Male	Female	White	African American	Asian	Other	Hispanic	<35	35-49	50-64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/Other	Not Reg	High 5	4	Avg 3	Low 1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Often	84	36	49	70	5	4	2	9	13	22	30	17	74	10	10	73	25	24	28	8	31	24	25	4
	28%	24%	33%	28%	27%	37%	100%	40%	16%	26%	39%	34%	32%	20%	33%	28%	26%	28%	33%	25%	65%	39%	18%	9%
							DEFH				Ij	i									VWX	WX		
Sometimes	107	55	52	98	6	3	-	-	35	33	26	13	82	19	8	99	33	38	27	9	11	23	61	12
	36%	37%	35%	39%	33%	31%			43%	38%	33%	26%	35%	37%	26%	37%	35%	45%	31%	30%	23%	39%	43%	26%
																						Ux		
Very little	57	36	21	45	3	-	-	7	18	14	15	9	39	11	7	49	20	11	15	11	2	8	36	11
	19%	24%	14%	18%	18%			32%	22%	17%	19%	19%	17%	21%	23%	19%	21%	13%	17%	36%	4%	13%	25%	25%
																							Uv	U
Never	39	18	21	34	4	-	-	6	15	13	5	6	29	10	6	34	13	9	16	2	2	4	16	18
	13%	12%	14%	13%	21%			28%	19%	15%	6%	13%	13%	19%	18%	13%	14%	10%	18%	5%	5%	6%	11%	39%
																								UVW
(DO NOT READ) Not sure	10	3	7	7	-	3	-	-	-	4	2	4	8	2	-	10	4	4	1	1	2	2	6	-
	3%	2%	5%	3%		33%				4%	3%	8%	4%	3%		4%	4%	4%	1%	3%	4%	4%	4%	
							d																	

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
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	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Often	84	28	16	21	19	31	52	19	24	39	28	55	15	37	22	40	42	53	26	4	16	26	42
	28%	36%	20%	27%	31%	37%	25%	42%	26%	25%	32%	26%	20%	29%	36%	33%	24%	42%	23%	8%	32%	23%	32%
						g		j							m		ST	T					
Sometimes	107	21	34	32	20	30	73	16	34	57	28	79	31	46	23	50	57	39	49	17	19	47	39
	36%	27%	41%	42%	34%	35%	35%	36%	36%	37%	32%	38%	40%	36%	37%	41%	33%	31%	43%	31%	38%	41%	30%
Very little	57	16	19	13	9	11	45	5	24	27	22	35	21	26	4	16	41	24	15	17	4	31	21
	19%	21%	23%	17%	15%	13%	22%	12%	26%	17%	25%	17%	27%	20%	7%	13%	23%	19%	13%	31%	8%	27%	16%
								h					O	O			p			S		Uw	
Never	39	9	11	10	9	10	30	3	10	26	9	30	9	13	10	13	26	4	19	15	9	10	20
	13%	12%	13%	14%	15%	11%	14%	7%	11%	17%	10%	14%	11%	10%	16%	11%	15%	4%	17%	28%	17%	9%	16%
										h									R	R			
(DO NOT READ) Not sure	10	3	2	1	3	3	7	2	1	7	-	10	1	5	3	3	7	4	5	1	2	-	7
	3%	4%	3%	1%	5%	3%	4%	3%	1%	5%		5%	2%	4%	4%	2%	4%	4%	4%	2%	4%		6%

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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 4. Do you think the health of local waters is generally (randomize): [getting better, getting worse, (or) staying about the same] compared to a few years ago?

	=GENDER==		=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG===			=====PARTY ID=====		=ENVIRONMENTALISM=					
	ALL	Fe- Male	male	White	Afr- Amer	As- ian	Othr anic	Hisp	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Better	52	26	26	48	3	1	-	3	7	11	22	12	45	5	7	44	15	15	22	1	10	14	23	4
	17%	17%	17%	19%	18%	6%		14%	8%	13%	29%	23%	19%	9%	21%	17%	16%	17%	25%	2%	22%	23%	16%	9%
											IJ	i					t	t	T					
Same	124	71	54	105	6	3	1	10	31	34	34	24	99	18	12	113	37	39	29	19	13	23	64	24
	42%	48%	36%	41%	34%	32%	23%	45%	38%	40%	43%	47%	42%	35%	37%	42%	39%	46%	34%	62%	27%	39%	45%	52%
			c																	s			U	U
Worse	89	41	48	74	6	6	1	7	32	34	16	8	68	19	11	79	34	23	27	5	18	18	44	9
	30%	28%	32%	29%	32%	62%	45%	32%	39%	39%	20%	16%	29%	37%	34%	30%	36%	27%	31%	17%	38%	30%	30%	20%
						d			kL	KL											x			
(DO NOT READ) Not sure	32	11	21	28	3	-	1	2	11	7	7	7	21	10	3	29	9	9	9	5	6	5	13	8
	11%	7%	14%	11%	16%		32%	8%	14%	8%	9%	14%	9%	19%	8%	11%	9%	10%	11%	18%	13%	8%	9%	18%
			b																					

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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 4. Do you think the health of local waters is generally (randomize): [getting better, getting worse, (or) staying about the same] compared to a few years ago?

	=====EDUCATION=====				==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==			
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Better	52	10	16	10	16	20	31	4	15	31	11	40	17	19	11	20	32	19	25	8	5	22	25
	17%	13%	20%	13%	26%	24%	15%	9%	16%	20%	13%	19%	22%	15%	18%	17%	18%	15%	22%	14%	11%	19%	19%
Same	124	28	35	32	28	34	88	12	39	73	41	83	36	54	20	42	82	50	45	27	15	58	51
	42%	36%	42%	42%	46%	40%	42%	28%	42%	46%	48%	40%	47%	43%	32%	34%	47%	40%	39%	49%	30%	51%	39%
										H							p					U	
Worse	89	29	26	27	7	22	66	23	30	36	29	60	16	42	28	50	39	40	35	15	26	25	39
	30%	38%	32%	36%	12%	26%	32%	51%	32%	23%	33%	29%	21%	33%	45%	42%	22%	32%	30%	27%	52%	22%	30%
		E	E	E				iJ						m	M	Q					VW		
(DO NOT READ) Not sure	32	10	5	7	10	8	22	6	9	17	5	27	8	11	3	9	22	16	10	5	3	10	16
	11%	13%	7%	9%	16%	10%	11%	12%	10%	11%	6%	13%	11%	9%	5%	7%	13%	13%	9%	10%	7%	9%	12%

c

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 5. When it comes to your own impact, do you think you are contributing to water pollution a great deal, somewhat, a little bit, or not at all?

	=GENDER==		=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====		=====PARTY ID=====			=ENVIRONMENTALISM==					
	ALL	Male	Female	White	African American	Asian	Other	Hispanic	<35	35-49	50-64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/Othr	Not Reg	High 5	4	Avg 3	Low 1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
A great deal	6	-	6	3	2	-	1	-	2	2	1	1	6	-	1	5	2	2	2	1	2	2	2	-
	2%		4%	1%	9%		45%		2%	2%	2%	2%	3%		3%	2%	2%	2%	2%	2%	5%	3%	1%	
					d																			
Somewhat	43	15	29	36	5	3	-	3	6	20	15	2	40	4	2	41	26	9	8	-	6	9	22	6
	15%	10%	19%	14%	28%	31%		13%	8%	23%	20%	4%	17%	7%	5%	16%	27%	11%	9%		13%	15%	15%	14%
					b					IL	iL						RS							
A little bit	114	59	56	97	8	1	1	7	36	30	33	16	83	22	13	102	37	26	37	15	18	23	55	19
	39%	40%	37%	38%	45%	6%	32%	32%	44%	35%	42%	31%	36%	42%	40%	38%	39%	30%	43%	50%	38%	38%	38%	42%
				F	F																			
Not at all	130	72	58	115	3	6	1	12	36	34	28	32	102	24	16	114	30	49	39	12	19	26	65	19
	44%	48%	39%	45%	18%	63%	23%	55%	44%	40%	35%	63%	44%	46%	51%	43%	32%	57%	45%	41%	40%	43%	45%	43%
				E	E							JK						Q	q					
(DO NOT READ) Not sure/ Refused to say	3	3	1	3	-	-	-	-	2	-	1	-	1	2	-	3	-	1	1	2	2	1	-	1
	1%	2%	1%	1%					3%		1%		1%	4%		1%		1%	1%	7%	5%	1%		1%

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 5. When it comes to your own impact, do you think you are contributing to water pollution a great deal, somewhat, a little bit, or not at all?

	=====EDUCATION=====				==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==			
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
A great deal	6	3	1	2	-	2	4	2	3	1	4	2	1	3	2	2	4	5	1	-	6	-	-
	2%	4%	1%	3%		3%	2%	5%	3%	*%	4%	1%	1%	2%	4%	1%	2%	4%	1%		12%		
Somewhat	43	7	16	13	7	12	31	9	17	18	12	32	4	25	10	17	26	22	15	7	43	-	-
	15%	10%	19%	17%	12%	15%	15%	20%	18%	11%	14%	15%	6%	20%	16%	14%	15%	18%	13%	12%	88%		
														M									
A little bit	114	26	34	26	29	25	88	8	45	62	35	79	34	47	24	51	63	42	46	24	-	114	-
	39%	33%	42%	34%	47%	30%	43%	19%	48%	39%	41%	38%	44%	37%	39%	42%	36%	34%	40%	43%		100%	
							f		H	H													
Not at all	130	39	31	34	24	44	80	23	29	76	36	94	35	51	26	49	80	52	51	24	-	-	130
	44%	50%	38%	45%	40%	53%	39%	52%	31%	48%	41%	45%	45%	40%	42%	40%	46%	42%	45%	44%			100%
						G		I	I														
(DO NOT READ) Not sure/ Refused to say	3	2	1	1	-	-	3	2	-	1	1	3	3	-	-	2	1	2	1	-	-	-	-
	1%	3%	1%	1%			2%	5%		1%	1%	1%	4%			2%	1%	2%	1%				

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 6. At home, do you get your drinking water from a private well, or does it come from your local city, county, or municipality?

	=GENDER==		=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====			=====PARTY ID=====		=ENVIRONMENTALISM==					
	ALL	Male	Fe- male	White	Afr- Amer	As- ian	Othr anic	Hisp	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Well	84	35	49	75	4	1	-	5	8	29	29	18	77	4	14	70	24	27	26	7	15	13	43	12
	28%	24%	33%	29%	21%	6%		23%	10%	34%	37%	35%	33%	7%	43%	26%	25%	31%	30%	24%	31%	22%	30%	27%
				f						I	I	I	N											
City/County/Municipality	207	110	97	175	13	10	2	17	72	55	48	32	151	46	16	190	68	55	61	23	32	45	98	32
	70%	74%	65%	69%	70%	94%	100%	77%	88%	64%	61%	63%	65%	89%	52%	72%	72%	65%	70%	76%	68%	74%	68%	70%
				d		d	DE	JKL					M			o								
(DO NOT READ) Not sure	6	3	3	5	2	-	-	-	2	2	2	1	4	2	2	5	3	3	-	-	1	2	2	1
	2%	2%	2%	2%	8%				2%	2%	2%	2%	2%	4%	5%	2%	3%	4%			1%	4%	1%	3%

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 6. At home, do you get your drinking water from a private well, or does it come from your local city, county, or municipality?

	=====EDUCATION=====				==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==			
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftrn Some	Lttl Nevrr	High	Midl	Low	Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Well	84	19	26	20	17	84	-	11	27	46	30	54	22	32	21	32	50	36	35	13	14	25	44
	28%	25%	32%	26%	29%	100%		26%	29%	29%	34%	26%	28%	25%	33%	26%	29%	29%	30%	23%	29%	22%	34%
																							v
City/County/Municipality	207	56	55	53	42	-	207	32	66	107	57	150	52	92	41	86	121	84	78	41	35	88	80
	70%	72%	67%	70%	70%		100%	71%	71%	68%	65%	72%	67%	73%	66%	71%	69%	68%	68%	76%	71%	77%	62%
																							w
(DO NOT READ) Not sure	6	2	1	3	1	-	-	2	1	4	1	6	4	2	1	3	3	3	2	1	-	1	5
	2%	3%	1%	4%	1%			3%	1%	3%	1%	3%	5%	2%	1%	3%	2%	3%	2%	2%		1%	4%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 7. Do you usually drink the water at home straight out of the tap, drink filtered water out of your tap, or drink bottled water? IF MORE THAN ONE: Which do you do most often?

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====			=====PARTY ID=====			=ENVIRONMENTALISM==			
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Straight out of the tap	108	57	51	98	2	5	1	10	22	27	28	30	88	17	12	96	27	42	32	7	22	23	47	16
	36%	39%	34%	38%	13%	45%	45%	46%	28%	32%	36%	60%	38%	32%	39%	36%	28%	50%	36%	24%	46%	38%	33%	36%
				E								IJK						Qt						
Filtered out of the tap	122	53	69	108	7	6	1	3	30	45	34	13	102	18	15	107	43	30	40	10	19	31	53	20
	41%	36%	46%	42%	39%	55%	55%	13%	37%	53%	44%	25%	44%	35%	48%	40%	45%	35%	46%	32%	39%	51%	37%	43%
									L		L													
Bottled	64	35	29	46	9	-	-	9	27	14	16	8	40	17	4	60	23	13	15	13	5	7	43	9
	22%	24%	20%	18%	48%			40%	33%	16%	20%	15%	17%	32%	13%	23%	24%	15%	18%	44%	10%	12%	30%	21%
					D				jl										RS				UV	
(DO NOT READ) Not sure	3	3	-	3	-	-	-	-	2	-	1	-	2	1	-	3	2	1	-	-	2	-	1	-
	1%	2%		1%					3%		1%		1%	1%		1%	2%	1%			5%		*	
																				w				

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
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 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 7. Do you usually drink the water at home straight out of the tap, drink filtered water out of your tap, or drink bottled water? IF MORE THAN ONE: Which do you do most often?

	=====EDUCATION=====				==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==			
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Straight out of the tap	108	32	29	21	25	46	60	12	24	72	31	76	29	42	25	45	63	43	42	21	12	37	58
	36%	41%	35%	28%	41%	55%	29%	27%	26%	46%	36%	36%	38%	33%	39%	37%	36%	34%	37%	38%	25%	33%	44%
						G				HI													U
Filtered out of the tap	122	18	34	40	30	26	92	18	39	65	37	86	38	47	31	56	65	50	51	21	21	52	47
	41%	23%	42%	53%	49%	31%	44%	40%	42%	42%	42%	41%	49%	38%	50%	46%	37%	40%	45%	39%	43%	45%	36%
			b	B	B		f																
Bottled	64	26	19	14	5	12	53	14	30	20	19	45	10	35	7	18	46	28	21	13	15	25	23
	22%	33%	23%	19%	9%	14%	25%	32%	32%	13%	22%	22%	12%	27%	11%	15%	26%	23%	18%	24%	31%	22%	18%
		E	E				F	J	J					MO			p						
(DO NOT READ) Not sure	3	2	-	-	1	-	3	1	-	-	-	3	1	2	-	2	1	3	-	-	1	-	2
	1%	3%			1%		1%	1%				1%	1%	2%		2%	1%	2%			1%		2%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 8. Are you ever concerned about whether your own tap water at home is safe to drink? IF YES: Would you say you are very concerned or only a little concerned?

	=GENDER==		=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====		=====PARTY ID=====				=ENVIRONMENTALISM==				
	ALL	Male	Fe- male	White	Afr- Amer	As- ian	Othr anic	Hisp	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Very concerned	45	16	29	34	7	4	1	-	13	10	11	11	36	8	4	41	9	11	20	5	8	11	24	2
	15%	11%	19%	13%	36%	38%	45%		16%	11%	14%	21%	16%	15%	12%	16%	9%	12%	23%	18%	17%	18%	16%	5%
			b		D														Qr		x		x	
A little concerned	93	45	48	75	7	-	-	9	32	31	23	8	67	19	14	79	30	22	25	16	10	17	55	11
	31%	31%	32%	30%	38%			40%	39%	36%	29%	15%	29%	37%	44%	30%	32%	26%	29%	54%	21%	27%	39%	25%
								L	L	L										r			U	
TOTAL CONCERNED	138	62	77	109	14	4	1	9	45	41	33	18	103	27	18	120	39	33	46	21	18	27	79	14
	47%	42%	51%	43%	74%	38%	45%	40%	55%	48%	43%	36%	44%	52%	56%	45%	41%	38%	52%	72%	38%	45%	55%	30%
				Df																qR			uX	
Not concerned	157	84	72	143	5	6	1	13	34	45	45	32	127	25	14	143	54	53	41	9	27	33	65	31
	53%	57%	49%	56%	26%	62%	55%	60%	42%	52%	57%	64%	55%	48%	44%	54%	57%	62%	48%	28%	57%	55%	45%	70%
				E		e						i					t	T						W
(DO NOT READ) Not sure	2	2	-	2	-	-	-	-	2	-	-	-	2	-	-	2	2	-	-	-	2	-	-	-
	1%	1%		1%					3%				1%			1%	2%			5%				

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 8. Are you ever concerned about whether your own tap water at home is safe to drink? IF YES: Would you say you are very concerned or only a little concerned?

	=====EDUCATION=====				==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==			
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Very concerned	45	17	7	17	5	11	32	45	-	-	17	28	8	14	19	22	23	27	13	5	11	8	23
	15%	21%	8%	22%	8%	14%	15%	100%			19%	13%	10%	11%	30%	18%	13%	22%	11%	9%	22%	7%	18%
				CE											MN		sT				V		v
A little concerned	93	20	33	22	19	27	66	-	93	-	37	56	22	47	17	37	57	51	25	16	20	45	29
	31%	25%	40%	29%	31%	32%	32%	100%			42%	27%	28%	38%	27%	30%	33%	41%	22%	29%	41%	39%	22%
											L						S				W		W
TOTAL CONCERNED	138	36	40	38	24	38	98	45	93	-	54	84	30	61	35	58	80	78	38	20	31	53	52
	47%	47%	48%	50%	40%	46%	47%	100%	100%		62%	40%	38%	49%	56%	48%	46%	63%	33%	37%	63%	46%	40%
											L				m		ST				vW		
Not concerned	157	39	42	38	36	46	107	-	-	157	33	123	48	63	27	61	94	44	76	34	18	62	76
	53%	50%	52%	50%	60%	54%	52%			100%	38%	59%	62%	50%	44%	50%	54%	35%	67%	63%	37%	54%	58%
											K		o						R	R		u	U
(DO NOT READ) Not sure	2	2	-	-	-	-	2	-	-	-	-	2	-	2	-	2	-	2	-	-	-	-	2
	1%	3%					1%					1%		2%		2%		2%					2%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 9. Is flooding a problem in the immediate area where you live? IF YES: Would you call flooding a major or only a minor problem?

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====			=====PARTY ID=====		=ENVIRONMENTALISM==				
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	4	Avg 3	Low 1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Major problem	19	5	14	18	-	-	1	-	2	5	5	7	13	5	2	16	9	5	4	1	2	4	9	3
	6%	3%	9%	7%			45%		3%	6%	6%	13%	6%	10%	7%	6%	10%	6%	4%	2%	5%	6%	6%	7%
			b									i												
Minor problem	68	30	39	50	6	5	1	10	19	27	16	7	54	8	7	61	24	13	20	12	12	13	36	8
	23%	20%	26%	19%	31%	46%	23%	46%	24%	31%	20%	13%	23%	15%	23%	23%	25%	15%	23%	41%	24%	21%	25%	19%
										kL										r				
TOTAL PROBLEM	87	35	52	67	6	5	2	10	22	32	20	13	67	13	9	78	33	17	24	13	14	17	45	12
	29%	23%	35%	26%	31%	46%	68%	46%	26%	37%	26%	26%	29%	25%	30%	29%	35%	20%	27%	43%	29%	27%	31%	26%
			b							k									r					
Not a problem	209	113	97	187	13	6	1	12	60	53	58	37	164	39	21	187	62	68	63	17	33	44	99	34
	70%	76%	65%	74%	69%	54%	32%	54%	74%	62%	74%	74%	71%	75%	67%	71%	65%	80%	72%	57%	69%	73%	69%	74%
			c							j								q						
(DO NOT READ) Not sure	1	1	-	-	-	-	-	-	-	1	-	-	1	-	1	-	-	-	1	-	1	-	-	-
	*%	1%								1%			*%		3%				1%		2%			

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 9. Is flooding a problem in the immediate area where you live? IF YES: Would you call flooding a major or only a minor problem?

	=====EDUCATION=====				==WATER==		DRINKING WATER CONCERN				=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Major problem	19	4	5	5	4	8	10	4	4	10	19	-	4	5	6	6	12	8	9	2	3	7	9
	6%	6%	6%	7%	6%	10%	5%	10%	5%	6%	21%		5%	4%	10%	5%	7%	6%	8%	4%	6%	6%	7%
Minor problem	68	17	21	22	8	21	46	12	33	23	68	-	14	33	17	26	41	40	18	10	13	29	27
	23%	22%	25%	29%	14%	25%	22%	27%	35%	15%	79%		18%	26%	27%	22%	24%	32%	16%	19%	26%	25%	21%
				E				J									S						
TOTAL PROBLEM	87	21	26	27	12	30	57	17	37	33	87	-	18	37	23	33	53	48	27	13	15	35	36
	29%	28%	32%	36%	20%	35%	28%	37%	40%	21%	100%		23%	30%	37%	27%	31%	38%	23%	23%	31%	31%	27%
				e				j	J								St						
Not a problem	209	56	56	49	47	54	150	28	56	123	-	209	59	88	39	88	121	76	87	42	34	79	94
	70%	72%	68%	64%	78%	64%	72%	63%	59%	79%		100%	77%	70%	63%	72%	69%	62%	76%	77%	69%	69%	72%
				d					hI									r	r				
(DO NOT READ) Not sure	1	-	-	-	1	1	-	-	1	-	-	-	-	1	-	1	-	-	1	-	-	-	1
	*%				2%	1%			1%					1%		1%			1%				1%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
10. Are you very confident, somewhat confident, or not confident that the fish and shellfish that come out of local waters are safe to eat?

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====		=====PARTY ID=====				=ENVIRONMENTALISM==			
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	4	Avg 3	Low 1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Very confident	78	47	30	68	5	2	1	-	26	20	19	13	56	19	17	61	20	27	25	5	6	13	43	15
	26%	32%	20%	27%	25%	15%	45%		32%	23%	24%	25%	24%	36%	54%	23%	21%	32%	29%	18%	13%	22%	30%	32%
			c												p								u	u
Somewhat confident	126	68	59	109	5	5	1	17	36	40	31	19	98	20	7	119	42	39	30	15	20	29	64	14
	42%	46%	39%	43%	28%	52%	23%	77%	44%	47%	39%	38%	42%	39%	22%	45%	44%	46%	34%	50%	42%	47%	44%	31%
							e								o									
Not confident	62	23	39	53	6	3	1	3	15	18	21	8	54	6	6	56	25	12	22	3	17	10	25	10
	21%	16%	26%	21%	35%	33%	32%	14%	19%	21%	26%	15%	23%	11%	19%	21%	26%	14%	26%	11%	37%	17%	17%	23%
			b														r		r		vW			
TOTAL LACKING CONFIDENCE (Somewhat + Not)	189	91	98	162	12	9	1	20	51	59	51	27	152	26	13	175	67	51	52	18	37	39	88	24
	63%	61%	66%	64%	63%	85%	55%	92%	63%	69%	65%	53%	65%	50%	41%	66%	71%	60%	60%	61%	79%	64%	61%	53%
															o						WX			
(DO NOT READ) Not sure	31	10	21	24	2	-	-	2	5	7	8	11	24	7	2	29	8	7	10	6	4	9	12	6
	10%	7%	14%	9%	12%			8%	6%	9%	11%	21%	10%	13%	6%	11%	8%	8%	11%	21%	8%	14%	8%	14%
			b								Ij													

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
10. Are you very confident, somewhat confident, or not confident that the fish and shellfish that come out of local waters are safe to eat?

	==== EDUCATION =====					== WATER ==		DRINKING WATER CONCERN			= FLOODING =		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			== OWN IMPACT ==					
	ALL	HS or Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob	Not Prob	Very	Some	Not	Oftn	Lttl	Some	Nevr	High	Midl	Low	Lot/Some	Lttl	None	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)			
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130			
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121			
Very confident	78	17	22	19	20	22	52	8	22	48	18	59	78	-	-	40	38	24	32	20	5	34	35			
	26%	21%	27%	25%	33%	26%	25%	17%	24%	31%	21%	28%	100%			33%	22%	20%	28%	36%	11%	30%	27%			
Some what confident	126	33	37	33	22	32	92	14	47	63	37	88	-	126	-	54	72	54	50	19	28	47	51			
	42%	42%	45%	44%	37%	38%	45%	31%	51%	40%	43%	42%		100%		44%	41%	44%	44%	35%	56%	41%	39%			
Not confident	62	18	15	18	12	21	41	19	17	27	23	39	-	-	62	23	39	32	21	9	12	24	26			
	21%	24%	18%	23%	20%	24%	20%	41%	18%	17%	27%	19%			100%	19%	22%	26%	18%	16%	25%	21%	20%			
TOTAL LACKING CONFIDENCE (Somewhat + Not)	189	51	51	51	34	53	134	32	64	90	61	127	-	126	62	76	111	86	72	28	40	71	77			
	63%	66%	62%	67%	57%	63%	65%	72%	69%	57%	70%	61%		100%	100%	63%	63%	70%	63%	52%	81%	62%	59%			
(DO NOT READ) Not sure	31	10	9	6	6	9	21	5	7	19	8	23	-	-	-	5	26	13	10	6	4	9	18			
	10%	13%	10%	8%	10%	11%	10%	11%	8%	12%	9%	11%				4%	15%	11%	9%	12%	8%	7%	14%			

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 11. Do you or others in your family swim, fish, or boat in the rivers or streams near where you live often, sometimes, very little, or never?

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====			=====PARTY ID=====		=ENVIRONMENTALISM==				
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	4	Avg 3	Low 1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Often	40	28	13	36	3	2	1	7	18	9	8	5	31	9	5	36	14	11	13	3	8	13	17	2
	14%	19%	9%	14%	15%	15%	23%	32%	22%	11%	11%	10%	13%	18%	15%	13%	15%	12%	15%	9%	17%	22%	12%	5%
			C																					X
Sometimes	81	41	39	71	3	3	1	-	27	30	20	4	63	18	13	68	29	25	23	4	14	14	41	12
	27%	28%	26%	28%	17%	31%	45%		33%	35%	25%	9%	27%	34%	40%	26%	30%	29%	27%	14%	29%	23%	28%	26%
									L	L	L													
TOTAL (Often + Sometimes)	121	69	52	107	6	5	2	7	44	39	28	10	94	27	18	104	43	35	36	7	22	27	58	14
	41%	46%	35%	42%	31%	46%	68%	32%	54%	46%	36%	19%	40%	52%	56%	39%	45%	41%	41%	23%	46%	44%	40%	32%
									kL	L	L									t				
Very little	60	25	35	54	3	2	-	5	7	26	19	8	55	5	9	50	17	14	21	8	9	9	36	6
	20%	17%	23%	21%	17%	21%		23%	8%	31%	24%	15%	24%	9%	29%	19%	18%	16%	24%	25%	19%	15%	25%	14%
										IL	I		n											
Never	115	53	61	91	10	3	1	10	31	20	31	32	82	20	5	110	34	35	30	15	15	25	50	25
	39%	36%	41%	36%	52%	33%	32%	45%	38%	23%	39%	64%	35%	39%	15%	41%	36%	41%	35%	51%	31%	41%	35%	55%
										J	IJK					O								Uw
(DO NOT READ) Not sure	2	1	1	2	-	-	-	-	-	-	1	1	2	-	-	2	1	1	-	-	2	-	-	-
	1%	1%	*%	1%							1%	2%	1%			1%	1%	1%			4%			

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
11. Do you or others in your family swim, fish, or boat in the rivers or streams near where you live often, sometimes, very little, or never?

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftrn Some	Lttl Nevtr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Often	40	20	5	9	7	10	29	7	12	19	5	35	13	20	7	40	-	22	15	3	3	14	24
	14%	26%	6%	11%	11%	12%	14%	16%	13%	12%	6%	17%	16%	16%	11%	33%		18%	13%	6%	5%	12%	19%
		Cde										K						T					U
Sometimes	81	19	21	24	17	22	57	14	25	42	27	53	27	34	16	81	-	29	35	15	16	37	25
	27%	25%	25%	31%	28%	26%	28%	32%	27%	26%	31%	25%	35%	27%	25%	67%		24%	31%	28%	33%	33%	19%
																					w	w	
TOTAL (Often + Sometimes)	121	40	25	32	24	32	86	22	37	61	33	88	40	54	23	121	-	52	50	18	19	51	49
	41%	51%	31%	43%	40%	38%	41%	48%	39%	39%	38%	42%	51%	42%	36%	100%		42%	44%	33%	39%	45%	38%
		C																					
Very little	60	10	22	15	12	21	38	5	20	35	21	38	17	22	15	-	60	21	25	13	11	22	26
	20%	13%	27%	20%	20%	25%	18%	11%	21%	22%	25%	18%	22%	17%	25%		34%	17%	22%	24%	23%	20%	20%
Never	115	28	34	28	24	29	83	18	37	59	32	83	20	50	24	-	115	49	39	23	19	41	53
	39%	36%	41%	36%	40%	35%	40%	41%	40%	38%	37%	40%	26%	40%	38%		66%	40%	34%	43%	39%	36%	41%
(DO NOT READ) Not sure	2	-	1	1	-	2	-	-	-	2	1	1	-	1	1	-	-	2	-	-	-	-	2
	1%		1%	1%		2%				1%	1%	*		1%	1%			1%					1%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 12. When you think about pollution in our local waters, do you think the problem can be fixed or is it too difficult?

	=GENDER=			=====RACE/ETHNICITY=====					=====AGE=====				====HOME====		====AG====				=====PARTY ID=====				=ENVIRONMENTALISM=			
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr anic	Hisp	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Othr	Ind/ Reg	Not	High	Avg	Low		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)		
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45		
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46		
Can be fixed	263	136	127	227	14	10	2	22	75	78	68	40	206	44	27	236	83	76	77	26	42	54	131	36		
	88%	91%	85%	89%	77%	100%	100%	100%	92%	91%	87%	79%	89%	84%	84%	89%	88%	89%	88%	88%	88%	88%	91%	81%		
												1														
Too difficult	12	4	8	8	4	-	-	-	2	3	5	3	9	3	1	12	5	3	2	2	4	2	5	1		
	4%	3%	6%	3%	19%				2%	3%	6%	6%	4%	7%	2%	4%	5%	4%	2%	7%	9%	3%	4%	3%		
					d																					
(DO NOT READ) There is not a problem with pollution	11	7	5	11	-	-	-	-	2	3	3	3	10	1	2	9	5	5	2	1	1	1	6	4		
	4%	5%	3%	4%					3%	3%	4%	7%	4%	2%	7%	3%	5%	6%	2%	2%	2%	1%	4%	8%		
(DO NOT READ) Not sure	11	2	9	9	1	-	-	-	2	2	2	4	7	4	2	9	2	1	7	1	1	5	2	4		
	4%	1%	6%	4%	4%				3%	2%	3%	8%	3%	7%	8%	3%	2%	1%	8%	3%	1%	8%	1%	8%		
					b														qr							

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 12. When you think about pollution in our local waters, do you think the problem can be fixed or is it too difficult?

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftrn Some	Lttl Nevtr	High	Midl	Low	Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Can be fixed	263	69	72	67	54	72	186	41	83	137	85	177	65	114	56	109	152	112	101	47	42	103	115
	88%	89%	88%	87%	89%	86%	90%	90%	89%	87%	98%	85%	84%	91%	90%	90%	87%	90%	88%	85%	85%	90%	88%
											I												
Too difficult	12	5	3	2	2	4	8	4	3	5	2	10	1	5	4	3	9	5	3	4	6	3	3
	4%	7%	4%	3%	3%	5%	4%	10%	4%	3%	2%	5%	1%	4%	7%	3%	5%	4%	3%	7%	12%	3%	3%
																					vw		
(DO NOT READ) There is not a problem with pollution	11	1	2	3	5	5	7	-	4	8	-	11	8	3	-	5	6	3	3	4	-	4	7
	4%	1%	3%	4%	8%	5%	3%		4%	5%		5%	10%	3%		4%	3%	3%	3%	7%		4%	5%
					b								n										
(DO NOT READ) Not sure	11	3	4	4	-	3	6	-	3	8	-	11	4	3	2	4	7	3	7	1	1	5	5
	4%	3%	5%	5%		4%	3%		3%	5%		5%	5%	3%	3%	4%	3%	6%	1%	2%	4%	4%	

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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 13. Is polluted water in this part of Pennsylvania hurting the area economically, or is it not having that effect?

	=GENDER=		=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG===				=====PARTY ID=====				=ENVIRONMENTALISM=			
	ALL	Male	Fe- male	White	Afr- Amer	As- ian	Hisp Othr	anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45	
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46	
Hurting economically	48	28	21	33	7	1	1	7	19	12	15	2	29	12	6	42	13	7	15	12	11	12	24	2	
	16%	19%	14%	13%	38%	6%	23%	32%	23%	14%	19%	4%	13%	23%	19%	16%	14%	8%	18%	41%	22%	19%	17%	4%	
					Df				L	l	L								QRs	X	x	X			
Not having that effect	193	106	87	177	7	5	1	13	49	56	52	34	158	31	19	174	63	68	50	12	29	43	86	35	
	65%	71%	58%	69%	39%	47%	45%	60%	60%	66%	67%	67%	68%	60%	59%	66%	66%	80%	58%	39%	62%	70%	60%	77%	
		c		E												t	qST						w		
(DO NOT READ) Not sure	57	15	41	45	4	5	1	2	14	17	11	14	45	9	7	50	19	11	21	6	8	6	34	9	
	19%	10%	28%	18%	22%	47%	32%	8%	17%	20%	14%	28%	19%	18%	22%	19%	20%	12%	25%	20%	16%	10%	24%	19%	
			B								k								r			v			

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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 13. Is polluted water in this part of Pennsylvania hurting the area economically, or is it not having that effect?

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Hurting economically	48	19	11	12	6	11	36	13	22	13	25	23	11	20	11	16	32	32	12	4	11	22	13
	16%	25%	13%	16%	10%	13%	17%	29%	23%	8%	29%	11%	14%	16%	17%	13%	18%	26%	10%	8%	21%	20%	10%
		e						J	J		L						ST					w	
Not having that effect	193	41	56	53	42	52	137	20	56	116	51	140	54	85	40	79	111	62	81	46	28	73	91
	65%	53%	68%	69%	69%	62%	66%	45%	60%	74%	59%	67%	70%	67%	63%	66%	64%	50%	71%	84%	57%	64%	70%
									Hi										R	Rs			
(DO NOT READ) Not sure	57	17	15	11	13	21	34	11	16	27	10	46	12	21	12	25	31	30	21	4	11	19	26
	19%	22%	19%	15%	21%	25%	17%	25%	17%	17%	12%	22%	16%	16%	19%	21%	18%	24%	19%	8%	22%	17%	20%
											k							T	t				

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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
14. If you were to consider all the issues and challenges facing this region today, where would protection of water resources rank on that priority list for you? READ LIST.

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====			=====PARTY ID=====		=ENVIRONMENTALISM==				
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	4	Avg 3	Low 1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
At the top	32	10	22	25	4	3	1	-	3	12	7	9	28	4	6	26	15	8	8	2	10	7	13	2
	11%	7%	15%	10%	23%	33%	32%		4%	15%	9%	18%	12%	8%	20%	10%	16%	9%	9%	6%	22%	12%	9%	5%
			b							i		I									wX			
Above average	91	48	43	74	4	4	-	9	27	20	30	13	75	9	8	83	25	23	25	18	20	22	41	8
	31%	33%	29%	29%	23%	37%		40%	34%	23%	39%	26%	32%	17%	24%	31%	27%	27%	28%	62%	42%	36%	28%	18%
										J		n								QRS	X			
TOTAL HIGH (Top + Above average)	124	59	65	99	8	7	1	9	31	32	38	22	104	13	14	109	40	30	32	20	30	29	53	10
	42%	40%	44%	39%	45%	70%	32%	40%	37%	38%	48%	44%	45%	25%	44%	41%	43%	36%	37%	68%	64%	48%	37%	23%
						d							n							RS	WX	X		
In the middle of the pack	114	52	62	101	7	2	2	10	32	31	29	23	82	27	15	99	38	34	38	5	11	27	61	15
	38%	35%	42%	40%	36%	16%	68%	46%	39%	36%	37%	45%	35%	51%	47%	38%	40%	39%	44%	15%	23%	44%	43%	33%
				f			f									t	t	T			U	U		
Below average	42	27	15	40	1	2	-	3	13	17	10	2	37	5	2	40	10	16	13	3	4	2	20	16
	14%	18%	10%	16%	4%	15%		13%	17%	20%	12%	4%	16%	10%	6%	15%	10%	19%	15%	9%	9%	3%	14%	35%
		c		E						L	L											V	UVW	
At the bottom	13	7	5	10	3	-	-	-	4	4	2	2	8	5	-	13	6	2	3	2	1	2	7	3
	4%	5%	4%	4%	15%				5%	5%	3%	4%	3%	9%		5%	6%	2%	3%	8%	2%	4%	5%	6%
TOTAL LOW (Below average + Bottom)	55	35	20	50	4	2	-	3	17	22	12	4	45	10	2	53	15	18	16	5	5	4	27	19
	18%	23%	14%	20%	19%	15%		13%	21%	25%	15%	8%	19%	19%	6%	20%	16%	21%	19%	16%	11%	7%	19%	41%
		c							kL						o							V	UVW	
(DO NOT READ) Not sure/Refused	4	3	1	4	-	-	-	-	2	1	-	1	2	2	1	3	1	3	-	-	1	-	2	1
	1%	2%	1%	2%					3%	1%		2%	1%	4%	3%	1%	1%	4%			2%		2%	2%

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
14. If you were to consider all the issues and challenges facing this region today, where would protection of water resources rank on that priority list for you? READ LIST.

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob	Not Prob	Very	Some	Not	Oftrn Some	Lttl Nevtr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
At the top	32	8	7	11	6	15	16	8	9	15	11	22	5	14	13	12	18	32	-	-	8	6	18
	11%	11%	8%	15%	10%	18%	8%	19%	10%	9%	12%	10%	7%	11%	21%	10%	11%	26%			17%	5%	14%
						G								M							v		v
Above average	91	33	20	23	16	21	69	19	42	29	37	55	19	41	19	39	52	91	-	-	18	37	34
	31%	43%	24%	30%	26%	25%	33%	42%	45%	18%	42%	26%	25%	32%	30%	33%	30%	74%			37%	32%	26%
		c						J	J		L												
TOTAL HIGH (Top + Above average)	124	42	26	34	22	36	84	27	51	44	48	76	24	54	32	52	70	124	-	-	27	42	52
	42%	54%	32%	45%	36%	43%	41%	60%	54%	28%	55%	36%	31%	43%	52%	43%	40%	100%			54%	37%	40%
		C						J	J		L				M						v		
In the middle of the pack	114	30	31	28	24	35	78	13	25	76	27	87	32	50	21	50	64	-	114	-	16	46	51
	38%	38%	38%	37%	40%	41%	37%	29%	26%	49%	31%	41%	42%	40%	34%	42%	37%		100%		32%	40%	39%
										HI													
Below average	42	5	15	9	13	9	32	4	9	29	7	35	15	13	8	15	27	-	-	42	4	19	20
	14%	7%	18%	12%	21%	11%	16%	8%	10%	19%	8%	17%	20%	11%	13%	13%	15%			77%	7%	16%	15%
			b		B					h												u	
At the bottom	13	-	9	2	2	4	9	1	6	5	5	7	5	6	1	3	10	-	-	13	3	5	4
	4%		11%	3%	3%	4%	4%	2%	7%	3%	6%	4%	6%	5%	2%	2%	6%			23%	7%	4%	3%
			d																				
TOTAL LOW (Below average + Bottom)	55	5	24	12	15	13	41	5	16	34	13	42	20	19	9	18	37	-	-	55	7	24	24
	18%	7%	29%	15%	24%	15%	20%	10%	17%	22%	15%	20%	26%	15%	14%	15%	21%			100%	14%	21%	19%
			Bd		B					h													
(DO NOT READ) Not sure/Refused	4	1	1	2	-	1	3	-	2	2	-	4	1	2	-	1	3	-	-	-	-	2	2
	1%	1%	1%	3%		1%	2%		2%	1%		2%	1%	2%		1%	2%					2%	2%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
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 15. If leaders in the State said more money would be needed to solve the problem of water pollution in Pennsylvania, and they proposed a monthly fee that was reasonable, would you be likely to support or oppose that? IF SUPPORT/OPPOSE:
 Is that strongly or just somewhat (support/oppose)?

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG===		=====PARTY ID=====				=ENVIRONMENTALISM=			
	ALL	Male	Female	White	Afr- Amer	As- ian	Hisp Othr	anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Othr	Ind/ Reg	Not Reg	High 5	Avg 4	Low 3
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Strongly support	45	14	31	42	2	-	2	-	7	6	21	10	40	6	3	41	19	7	18	1	17	13	14	1
	15%	10%	21%	16%	10%		68%		8%	7%	27%	20%	17%	11%	11%	16%	20%	8%	20%	4%	37%	21%	9%	2%
			B				dE				IJ	J					rt		rt		WX		X	
Somewhat support	113	62	51	92	5	2	-	16	44	30	23	16	76	26	14	99	42	30	24	18	12	27	59	15
	38%	42%	35%	36%	29%	16%		72%	54%	36%	29%	31%	33%	49%	44%	37%	44%	35%	27%	59%	25%	45%	41%	33%
							eF	jKL									S		S		u	u		
TOTAL SUPPORT	158	76	82	134	7	2	2	16	51	36	44	26	115	31	17	140	61	36	42	19	29	40	72	16
	53%	51%	55%	52%	39%	16%	68%	72%	63%	43%	56%	51%	50%	60%	55%	53%	64%	43%	48%	63%	62%	66%	50%	36%
				F			f	F	j		j						RS				X	X		
Somewhat oppose	48	24	24	43	4	2	-	-	13	12	12	11	35	12	3	44	8	24	11	4	3	5	28	12
	16%	16%	16%	17%	19%	15%			16%	14%	15%	21%	15%	22%	11%	17%	9%	28%	13%	15%	6%	8%	19%	27%
																	QS					UV	UV	
Strongly oppose	56	31	25	49	5	2	-	3	11	22	16	8	48	8	10	46	10	18	24	4	9	7	32	9
	19%	21%	17%	19%	24%	22%		14%	13%	25%	21%	15%	21%	15%	32%	17%	11%	21%	28%	14%	18%	12%	22%	19%
																								Q
TOTAL OPPOSE	104	55	49	92	8	4	-	3	24	34	28	18	83	20	13	90	18	41	35	9	12	12	59	21
	35%	37%	33%	36%	44%	37%		14%	29%	40%	36%	36%	36%	38%	43%	34%	20%	48%	40%	29%	24%	20%	41%	46%
																		Q	Q				UV	UV
(DO NOT READ) Not sure/ Depends/Refused	35	17	18	29	3	5	1	3	7	15	7	7	34	1	1	35	15	8	10	2	7	9	12	8
	12%	12%	12%	11%	17%	48%	32%	13%	8%	18%	9%	13%	15%	2%	2%	13%	16%	9%	12%	8%	14%	14%	8%	18%
						d				k			N			O								

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 15. If leaders in the State said more money would be needed to solve the problem of water pollution in Pennsylvania, and they proposed a monthly fee that was reasonable, would you be likely to support or oppose that? IF SUPPORT/OPPOSE:
 Is that strongly or just somewhat (support/oppose)?

	=====EDUCATION=====				==WATER==		DRINKING WATER			=FLOODING		CONFIDENCE IN			IN WATER=		WATER PRIORITY			==OWN IMPACT==			
	HSor	Some	4-yr	Grad	Muni	CONCERN			Prob	Not	LOCAL	SEAFOOD	Oftn	Lttl	Some	Nevr	High	Midl	Low	Some	Lttl	None	
ALL	Less	Coll	Dgre	Work	Well	cple	Very	Lttl	Not	lem	Prob	Very	Some	Not	Some	Nevr	High	Midl	Low	Some	Lttl	None	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Strongly support	45	12	9	13	11	11	33	10	15	20	13	32	7	18	17	19	25	23	19	2	13	18	13
	15%	15%	11%	17%	19%	13%	16%	23%	16%	13%	15%	15%	9%	14%	27%	16%	14%	19%	16%	4%	27%	16%	10%
													M					T	T		W		
Somewhat support	113	32	35	26	20	28	82	16	39	58	38	75	32	52	15	49	63	54	47	12	12	50	49
	38%	41%	43%	34%	33%	40%	36%	42%	37%	44%	36%	41%	41%	24%	40%	36%	44%	41%	21%	24%	44%	37%	
													o	O				T	T			U	
TOTAL SUPPORT	158	44	44	39	31	38	116	26	54	78	51	107	39	69	32	68	88	77	66	14	25	68	62
	53%	56%	53%	52%	52%	45%	56%	59%	57%	50%	59%	51%	50%	55%	51%	56%	51%	63%	57%	25%	51%	60%	47%
																		T	T				
Somewhat oppose	48	15	14	9	8	15	32	6	18	24	8	39	8	24	11	19	29	9	20	17	5	19	24
	16%	19%	18%	12%	14%	18%	16%	13%	19%	15%	10%	19%	11%	19%	17%	16%	16%	7%	17%	31%	9%	17%	18%
																			r	R			
Strongly oppose	56	11	14	18	13	21	34	10	12	34	17	38	22	16	14	24	32	19	19	17	7	18	30
	19%	14%	18%	24%	22%	25%	17%	22%	13%	22%	19%	18%	29%	13%	22%	20%	18%	15%	17%	31%	15%	16%	23%
													N							r			
TOTAL OPPOSE	104	26	29	27	21	36	67	16	30	58	25	78	31	41	24	43	60	28	39	34	12	37	54
	35%	33%	35%	35%	35%	43%	32%	35%	32%	37%	29%	37%	39%	32%	39%	36%	35%	22%	34%	62%	25%	32%	41%
																				RS			U
(DO NOT READ) Not sure/ Depends/Refused	35	8	9	10	8	10	25	3	10	21	11	25	8	16	6	10	26	19	10	7	12	9	15
	12%	11%	11%	13%	13%	12%	12%	6%	11%	13%	12%	12%	11%	13%	10%	8%	15%	15%	8%	13%	24%	8%	11%
																					Vw		

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 16A. Upgrading waste water treatment plants. AS NEEDED: Please use the scale very high, high, medium, low, or very low
 priority.

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====			=====PARTY ID=====				=ENVIRONMENTALISM==			
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	4	Avg 3	Low 1-2	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45	
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46	
Very high	45	17	28	39	3	2	1	2	9	15	17	4	40	5	6	39	13	9	16	7	12	12	18	3	
	15%	12%	19%	16%	14%	16%	32%	8%	11%	18%	21%	8%	17%	10%	21%	15%	14%	10%	18%	23%	26%	20%	12%	6%	
High	131	68	63	106	12	5	1	14	57	24	31	18	88	32	15	115	43	37	36	15	20	33	65	12	
	44%	46%	42%	41%	66%	48%	23%	64%	70%	28%	40%	35%	38%	61%	46%	44%	45%	44%	41%	49%	42%	55%	45%	27%	
					D				JKL		j			M							X		x		
TOTAL (Very high + High)	176	85	91	145	15	6	1	16	66	39	48	22	128	37	21	154	56	46	52	22	33	45	83	15	
	59%	57%	61%	57%	80%	63%	55%	72%	81%	45%	61%	44%	55%	71%	67%	58%	59%	54%	60%	72%	68%	74%	58%	33%	
					D				JKL		JL										X	wX	X		
Medium	74	37	37	66	2	2	1	3	13	23	17	20	62	10	7	67	26	22	21	4	10	10	38	15	
	25%	25%	25%	26%	10%	22%	45%	14%	16%	27%	22%	39%	26%	19%	22%	25%	27%	26%	25%	13%	21%	17%	27%	34%	
					E																				
Low	24	16	8	20	2	2	-	-	2	12	5	4	21	2	3	21	6	7	7	3	2	1	12	9	
	8%	11%	5%	8%	10%	15%			3%	14%	7%	8%	9%	4%	8%	8%	6%	9%	8%	11%	4%	2%	8%	19%	
																								uV	
Very Low	10	4	6	10	-	-	-	-	-	4	4	2	10	1	-	10	1	6	3	1	2	1	6	1	
	3%	3%	4%	4%						5%	5%	4%	4%	1%		4%	1%	7%	3%	2%	5%	2%	4%	2%	
Mean	2.38	2.45	2.31	2.40	2.16	2.36	2.14	2.07	2.11	2.56	2.31	2.64	2.42	2.22	2.18	2.40	2.31	2.56	2.33	2.17	2.19	2.07	2.44	2.82	
										I		Ik							q			V	UVW		
(DO NOT READ) Don't know/ Refused	14	7	7	14	-	-	-	3	-	8	4	2	12	2	1	13	6	4	4	1	1	3	5	5	
	5%	5%	5%	6%				13%		9%	5%	5%	5%	4%	3%	5%	6%	4%	4%	2%	1%	5%	4%	11%	
																								u	

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
16A. Upgrading waste water treatment plants. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Very high	45	11	12	14	8	12	33	11	14	21	12	33	15	13	12	18	27	33	10	1	7	17	18
	15%	15%	15%	18%	13%	14%	16%	24%	15%	13%	13%	16%	20%	10%	20%	15%	16%	26%	9%	2%	15%	15%	14%
High	131	49	39	25	18	30	98	19	47	63	39	92	31	61	25	63	67	60	55	16	21	63	47
	44%	63%	47%	33%	29%	35%	47%	41%	51%	40%	45%	44%	41%	48%	40%	52%	38%	48%	48%	28%	42%	55%	37%
		DE	E				f								q		T	T				W	
TOTAL (Very high + High)	176	60	51	39	26	42	130	29	61	83	51	125	47	74	37	81	94	92	65	17	28	80	65
	59%	78%	62%	51%	43%	50%	63%	65%	65%	53%	58%	60%	60%	59%	60%	67%	54%	74%	57%	31%	56%	70%	50%
		DE	E				f								q		ST	T				W	
Medium	74	14	19	24	16	27	44	11	21	42	19	54	15	33	17	25	48	18	37	16	12	20	41
	25%	18%	23%	31%	26%	33%	21%	25%	22%	27%	22%	26%	19%	26%	28%	21%	27%	15%	32%	29%	25%	17%	32%
						g													R	r		V	
Low	24	1	5	9	9	7	16	1	4	18	7	17	8	8	4	8	15	5	6	13	1	6	17
	8%	1%	6%	12%	15%	9%	8%	3%	5%	12%	8%	8%	11%	6%	7%	7%	9%	4%	5%	23%	3%	5%	13%
				B	B					H										RS		U	
Very Low	10	2	1	3	4	4	6	1	4	5	6	4	4	4	2	3	8	4	4	3	2	5	3
	3%	2%	1%	5%	7%	5%	3%	3%	4%	3%	7%	2%	5%	3%	3%	2%	4%	3%	3%	5%	5%	4%	2%
Mean	2.38	2.12	2.26	2.51	2.69	2.53	2.31	2.15	2.31	2.49	2.49	2.33	2.38	2.40	2.30	2.28	2.45	2.06	2.45	3.00	2.34	2.26	2.52
				B	BC					h									R	RS		v	
(DO NOT READ) Don't know/Refused	14	1	6	1	6	3	11	2	3	9	4	10	4	7	2	4	10	5	3	7	5	4	4
	5%	1%	8%	2%	10%	4%	5%	4%	4%	6%	5%	5%	5%	6%	3%	3%	6%	4%	3%	12%	11%	3%	3%
			bd		bd															s	vw		

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 16B. Protecting and improving drinking water. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====			=====PARTY ID=====		=ENVIRONMENTALISM==				
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	4	Avg 3	Low 1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Very high	90	35	55	78	4	3	2	5	23	25	27	15	71	17	9	81	31	22	30	7	16	18	38	17
	30%	23%	37%	31%	22%	33%	77%	22%	28%	29%	34%	30%	31%	33%	29%	30%	33%	25%	35%	23%	34%	30%	26%	38%
			B				e																	
High	141	76	65	119	13	2	1	14	56	30	31	23	98	31	15	125	52	39	34	16	23	32	71	15
	47%	51%	44%	47%	69%	22%	23%	64%	69%	35%	39%	46%	42%	60%	48%	47%	55%	46%	39%	53%	48%	53%	49%	33%
				df					JKL								s					x	x	
TOTAL (Very high + High)	231	111	120	198	17	6	2	19	79	55	57	39	170	48	24	206	83	61	64	23	39	50	109	32
	78%	75%	81%	78%	92%	55%	100%	86%	97%	64%	73%	76%	73%	93%	78%	78%	87%	72%	74%	76%	83%	83%	76%	71%
				df			DF		JKL					M			Rs							
Medium	42	22	21	36	2	3	-	3	2	20	13	8	39	4	6	36	10	17	14	2	6	6	23	8
	14%	15%	14%	14%	8%	31%		14%	3%	23%	16%	15%	17%	7%	19%	14%	10%	20%	16%	6%	13%	9%	16%	17%
									I	I	I													
Low	17	12	5	15	-	2	-	-	-	8	5	3	17	-	1	16	1	6	5	4	2	2	8	5
	6%	8%	3%	6%		15%				9%	6%	7%	7%		3%	6%	1%	8%	6%	13%	3%	4%	5%	11%
Very Low	6	3	3	5	-	-	-	-	-	2	3	1	6	-	-	6	1	1	3	2	1	2	4	-
	2%	2%	2%	2%						2%	4%	2%	3%			2%	1%	1%	3%	6%	1%	3%	3%	
Mean	2.01	2.13	1.89	2.01	1.86	2.27	1.23	1.92	1.75	2.20	2.06	2.05	2.08	1.74	1.96	2.02	1.84	2.11	2.02	2.24	1.88	1.95	2.08	2.01
		C								I	i		N					Q		q				
(DO NOT READ) Don't know/ Refused	2	1	1	2	-	-	-	-	-	1	1	-	2	-	-	2	-	1	1	-	-	1	1	-
	1%	1%	1%	1%						1%	1%		1%			1%		1%	1%			2%	1%	

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
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16B. Protecting and improving drinking water. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=====EDUCATION=====				==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==			
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Very high	90	24	23	22	20	20	68	20	30	40	25	65	25	31	23	34	55	51	27	11	17	35	35
	30%	31%	28%	30%	33%	24%	33%	44%	32%	26%	29%	31%	32%	25%	36%	28%	32%	42%	23%	20%	34%	31%	27%
								j										ST					
High	141	46	43	36	16	39	99	20	45	73	43	98	33	66	28	65	75	59	59	20	22	57	61
	47%	59%	53%	47%	26%	46%	48%	45%	49%	47%	50%	47%	43%	52%	45%	53%	43%	48%	52%	37%	46%	50%	47%
		E	E	E																			
TOTAL (Very high + High)	231	70	67	58	36	59	167	40	75	113	68	163	58	97	51	99	130	111	85	31	39	92	96
	78%	90%	81%	77%	59%	71%	81%	89%	81%	72%	78%	78%	75%	77%	81%	82%	75%	90%	75%	57%	80%	81%	74%
		dE	E	E				J										ST	t				
Medium	42	6	8	13	14	17	23	5	9	28	9	32	11	17	11	11	31	7	23	13	9	11	22
	14%	8%	10%	17%	23%	20%	11%	11%	10%	18%	11%	15%	15%	14%	17%	9%	18%	5%	20%	23%	18%	10%	17%
					bc													R	R				
Low	17	1	7	3	5	7	10	-	6	11	8	9	7	8	1	7	10	3	4	9	1	9	7
	6%	1%	9%	4%	9%	8%	5%		6%	7%	9%	4%	8%	6%	1%	5%	6%	2%	3%	16%	1%	7%	6%
			b										o							Rs		u	
Very Low	6	-	1	1	4	1	5	-	2	4	2	4	2	2	1	3	3	2	2	2	1	1	5
	2%		1%	1%	7%	1%	3%		2%	3%	2%	2%	2%	2%	1%	2%	2%	1%	2%	4%	1%	1%	4%
Mean	2.01	1.79	2.00	2.00	2.30	2.14	1.96	1.67	1.95	2.15	2.06	1.99	2.06	2.07	1.86	1.98	2.03	1.72	2.09	2.47	1.89	1.96	2.12
					Bd				h	H									R	RS			
(DO NOT READ) Don't know/ Refused	2	-	-	1	1	1	1	-	2	-	-	2	-	2	-	2	-	2	-	-	-	2	-
	1%			1%	2%	1%	*%		2%			1%		1%		1%		1%				1%	

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
16C. Removing toxic chemicals from the water. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=GENDER==		=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====		=====PARTY ID=====			=ENVIRONMENTALISM==					
	ALL	Male	Fe- male	White	Afr- Amer	As- ian	Othr anic	Hisp	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	4	Avg 3	Low 1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Very high	112	53	59	94	7	3	1	16	36	23	34	19	77	25	10	102	32	31	35	14	20	28	51	13
	38%	36%	40%	37%	39%	33%	32%	72%	44%	27%	43%	37%	33%	47%	31%	39%	34%	36%	40%	47%	43%	46%	35%	29%
									j		J													
High	133	59	74	116	9	5	1	6	32	45	30	26	112	19	17	116	49	38	36	10	19	28	70	16
	45%	40%	50%	45%	49%	46%	23%	28%	39%	53%	38%	50%	48%	36%	54%	44%	51%	45%	41%	33%	40%	46%	49%	35%
										k														
TOTAL (Very high + High)	245	112	134	209	16	8	1	22	68	68	64	44	189	43	27	218	81	69	71	24	39	56	121	29
	83%	75%	90%	82%	88%	79%	55%	100%	84%	79%	82%	87%	81%	83%	84%	82%	86%	81%	81%	80%	83%	92%	84%	64%
			B					D													x	X	X	
Medium	30	21	9	27	2	1	-	-	9	9	7	5	22	8	1	29	8	12	8	2	6	3	14	7
	10%	14%	6%	11%	12%	6%			11%	10%	9%	11%	9%	15%	2%	11%	9%	14%	9%	6%	13%	5%	9%	15%
			c													o								
Low	14	13	1	11	-	2	-	-	4	5	4	-	14	-	1	12	3	2	5	3	1	1	4	7
	5%	9%	*%	4%		15%			5%	6%	5%		6%		5%	5%	4%	2%	6%	11%	3%	1%	3%	16%
			C																					UVW
Very Low	3	1	2	3	-	-	-	-	-	1	2	-	3	-	-	3	-	1	2	1	-	1	2	-
	1%	1%	1%	1%						1%	2%		1%			1%		1%	2%	2%		1%	1%	
Mean	1.84	1.98	1.69	1.85	1.73	2.03	1.42	1.28	1.78	1.99	1.82	1.73	1.91	1.68	1.79	1.85	1.81	1.84	1.86	1.86	1.76	1.64	1.84	2.20
			C							1														UVW
(DO NOT READ) Don't know/ Refused	6	1	4	5	-	-	1	-	-	3	2	1	5	1	3	3	2	2	2	1	1	1	3	2
	2%	1%	3%	2%			45%			3%	2%	2%	2%	1%	9%	1%	2%	2%	2%	2%	1%	1%	2%	4%

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 16C. Removing toxic chemicals from the water. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=====EDUCATION=====				==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==			
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Very high	112	42	22	29	18	29	83	23	40	49	38	75	24	47	29	45	67	67	41	3	18	44	47
	38%	54%	27%	39%	30%	34%	40%	52%	43%	31%	43%	36%	31%	38%	47%	37%	38%	54%	36%	6%	37%	38%	36%
		CE						J							m		ST	T					
High	133	28	44	35	25	39	90	18	34	79	34	99	35	55	26	55	77	44	59	30	26	50	57
	45%	36%	54%	46%	41%	46%	43%	40%	36%	50%	39%	48%	46%	44%	41%	45%	44%	36%	51%	54%	53%	44%	44%
			b						i										r	r			
TOTAL (Very high + High)	245	70	67	65	43	67	173	41	74	128	71	174	59	102	55	99	144	111	100	33	44	94	104
	83%	90%	81%	85%	71%	80%	83%	92%	79%	82%	82%	83%	77%	81%	88%	82%	83%	90%	87%	60%	90%	82%	80%
		E		e				ij									T	T					
Medium	30	5	10	7	8	8	20	3	12	15	7	23	11	13	6	10	20	5	10	13	2	17	11
	10%	7%	12%	9%	13%	10%	10%	6%	13%	10%	8%	11%	14%	10%	10%	9%	11%	4%	9%	23%	4%	14%	8%
																				Rs		U	
Low	14	-	4	3	7	4	10	-	5	9	6	6	5	7	1	5	9	5	1	7	1	1	12
	5%		5%	4%	11%	5%	5%		5%	5%	7%	3%	6%	5%	2%	4%	5%	4%	1%	14%	1%	1%	9%
																				S			UV
Very Low	3	-	1	-	2	1	2	-	1	2	1	2	-	3	-	2	1	1	1	2	1	1	2
	1%		1%		4%	1%	1%		1%	1%	1%	1%		2%		2%	*%	*%	*%	3%	1%	1%	1%
Mean	1.84	1.50	1.96	1.78	2.17	1.89	1.81	1.53	1.84	1.92	1.83	1.83	1.94	1.90	1.67	1.84	1.84	1.58	1.76	2.53	1.71	1.80	1.94
			B	B	BD				H	H			o	o					r	RS			
(DO NOT READ) Don't know/Refused	6	3	1	2	1	3	3	1	2	3	2	4	3	2	-	5	1	2	3	-	2	2	2
	2%	3%	1%	2%	1%	4%	1%	2%	2%	2%	2%	2%	4%	1%		4%	1%	2%	2%		4%	1%	2%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 16D. Providing funding to help the local agricultural industry meet its pollution requirements. AS NEEDED: Please use
 the scale very high, high, medium, low, or very low priority.

	=GENDER==		=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====		=====PARTY ID=====				=ENVIRONMENTALISM==				
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Very high	38	16	22	36	3	-	1	6	2	13	19	4	34	4	6	32	13	9	13	3	13	6	14	6
	13%	11%	15%	14%	16%		32%	28%	3%	15%	24%	8%	14%	8%	20%	12%	14%	10%	15%	11%	27%	10%	9%	12%
										I	IjL										vWx			
High	99	51	48	75	11	3	1	14	44	21	18	14	69	21	9	89	31	24	27	16	14	25	50	9
	33%	34%	32%	30%	58%	31%	45%	64%	54%	25%	23%	28%	29%	40%	29%	33%	33%	28%	31%	52%	30%	42%	35%	19%
					D				JKL												X		x	
TOTAL (Very high + High)	136	67	70	111	14	3	2	20	46	34	37	19	102	25	16	120	45	33	40	19	27	31	64	14
	46%	45%	47%	44%	74%	31%	77%	92%	57%	40%	47%	37%	44%	48%	49%	45%	47%	38%	46%	63%	57%	51%	44%	31%
					DF			DF	1												X		x	
Medium	88	41	47	80	2	3	1	2	24	23	22	18	70	14	11	76	32	33	19	5	12	22	39	14
	29%	28%	31%	31%	12%	31%	23%	8%	30%	27%	28%	36%	30%	26%	35%	29%	33%	38%	22%	15%	26%	37%	27%	31%
				E													St							
Low	51	28	22	44	3	2	-	-	9	23	11	8	41	9	3	47	9	16	23	3	5	2	30	13
	17%	19%	15%	17%	14%	21%			11%	27%	14%	15%	18%	18%	10%	18%	10%	18%	26%	9%	11%	3%	21%	29%
									IKL										Qt				V	uV
Very Low	14	7	6	14	-	-	-	-	2	4	6	1	10	3	1	13	5	4	3	2	2	3	6	3
	5%	5%	4%	5%					3%	5%	8%	2%	4%	6%	2%	5%	5%	4%	4%	8%	4%	5%	4%	6%
										1														
Mean	2.67	2.73	2.61	2.70	2.24	2.87	1.91	1.81	2.57	2.82	2.57	2.72	2.67	2.74	2.42	2.70	2.56	2.78	2.72	2.48	2.33	2.52	2.74	2.97
				eh		h																U	UV	
(DO NOT READ) Don't know/ Refused	9	5	4	6	-	2	-	-	-	1	3	5	8	1	1	8	4	1	2	2	1	2	5	1
	3%	3%	3%	2%		17%				1%	4%	10%	4%	1%	4%	3%	5%	1%	3%	5%	2%	3%	3%	3%
										J														

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 16D. Providing funding to help the local agricultural industry meet its pollution requirements. AS NEEDED: Please use
 the scale very high, high, medium, low, or very low priority.

	=====EDUCATION=====				==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==				
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn	Lttl	Some	Nevr	High	Midl	Low	Lot/Some	Lttl
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130	
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121	
Very high	38	9	13	9	6	14	23	5	9	23	11	27	8	16	12	12	25	21	10	5	10	12	13	
	13%	12%	16%	12%	10%	17%	11%	12%	10%	15%	12%	13%	10%	12%	20%	10%	14%	17%	9%	8%	20%	10%	10%	
High	99	41	24	23	11	26	71	23	35	39	30	68	21	42	24	47	50	45	46	7	16	34	48	
	33%	53%	29%	30%	18%	31%	34%	50%	37%	25%	34%	32%	27%	34%	38%	39%	29%	37%	40%	13%	33%	30%	37%	
		CDE						J										T	T					
TOTAL (Very high + High)	136	50	37	32	17	40	94	28	44	62	40	95	29	58	36	59	76	67	56	12	26	46	61	
	46%	65%	45%	43%	28%	47%	45%	62%	47%	40%	46%	45%	37%	46%	58%	49%	43%	54%	49%	22%	53%	40%	47%	
		cDE	e					J							M			T	T					
Medium	88	18	28	26	15	26	60	13	23	51	28	59	21	42	14	31	56	36	35	17	14	39	33	
	29%	23%	34%	34%	25%	31%	29%	29%	25%	33%	32%	28%	27%	34%	23%	26%	32%	29%	30%	31%	29%	34%	26%	
Low	51	6	12	14	19	13	36	3	22	26	13	38	23	18	6	23	27	11	19	18	6	22	23	
	17%	7%	15%	18%	31%	15%	18%	7%	24%	16%	15%	18%	29%	14%	10%	19%	16%	9%	17%	33%	12%	19%	18%	
					BCd				H				NO							Rs				
Very Low	14	1	4	3	6	3	9	1	2	10	5	8	4	5	3	7	7	3	3	7	1	5	7	
	5%	1%	5%	4%	9%	4%	4%	1%	3%	7%	6%	4%	6%	4%	5%	6%	4%	3%	3%	13%	2%	5%	5%	
																				r				
Mean	2.67	2.31	2.63	2.70	3.14	2.58	2.69	2.35	2.72	2.74	2.67	2.66	2.94	2.62	2.40	2.72	2.64	2.40	2.65	3.28	2.42	2.77	2.70	
			b	B	BCD				h	H			nO					r	RS		u			
(DO NOT READ) Don't know/Refused	9	3	1	1	4	2	7	-	2	7	1	8	1	3	3	1	8	7	1	1	2	2	6	
	3%	3%	1%	2%	7%	2%	3%		2%	5%	1%	4%	1%	3%	5%	*	5%	5%	1%	2%	3%	2%	4%	
																	p							

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
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 16E. Reducing erosion and flooding in your neighborhood or on your property. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=GENDER==		=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====			=====PARTY ID=====		=ENVIRONMENTALISM==					
	ALL	Male	Fe- male	White	Afr- Amer	As- ian	Othr anic	Hisp	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	4	Avg 3	Low 1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Very high	23	8	15	22	2	-	2	-	2	5	10	6	18	6	3	21	11	6	5	2	8	3	12	-
	8%	6%	10%	9%	8%		77%		3%	6%	13%	12%	8%	11%	9%	8%	11%	7%	6%	5%	18%	4%	9%	
							DE				Ij									v				
High	55	23	32	38	8	2	1	7	19	13	13	11	37	11	4	51	15	10	17	12	10	13	28	4
	18%	16%	21%	15%	45%	16%	23%	32%	23%	15%	16%	21%	16%	21%	13%	19%	16%	12%	20%	41%	22%	22%	19%	8%
					Df															QRs	x		x	
TOTAL (Very high + High)	78	32	47	60	10	2	2	7	21	18	23	17	55	16	7	71	26	16	23	14	19	16	40	4
	26%	21%	31%	23%	54%	16%	100%	32%	25%	21%	29%	33%	24%	31%	22%	27%	28%	18%	26%	47%	39%	26%	28%	8%
					DF		DEFH													R	X	x	X	
Medium	78	28	50	67	5	5	-	3	20	26	18	13	64	10	10	68	29	22	24	3	13	15	39	10
	26%	19%	33%	26%	25%	46%		14%	25%	31%	23%	26%	28%	19%	30%	26%	30%	26%	28%	9%	27%	25%	27%	23%
			B														T		t					
Low	91	60	31	83	2	2	-	7	32	28	20	11	70	18	12	78	23	31	29	8	10	19	47	15
	31%	41%	20%	33%	11%	21%		32%	39%	33%	25%	22%	30%	35%	38%	30%	24%	36%	33%	28%	21%	31%	33%	33%
		C		E																				
Very Low	40	24	16	37	2	-	-	5	7	11	15	7	36	5	3	37	11	14	10	4	3	9	15	13
	14%	16%	11%	14%	10%			22%	8%	13%	19%	13%	15%	9%	9%	14%	11%	17%	12%	15%	6%	15%	10%	30%
																								UW
Mean	3.24	3.47	3.01	3.30	2.69	3.06	1.23	3.44	3.28	3.34	3.21	3.03	3.30	3.12	3.25	3.24	3.09	3.46	3.25	3.06	2.74	3.32	3.17	3.89
		C		EG	G	G		G										Q			U	U	UVW	
(DO NOT READ) Don't know/ Refused	10	5	6	8	-	2	-	-	2	2	3	3	7	3	-	10	6	2	1	1	3	2	2	3
	3%	3%	4%	3%		17%			3%	2%	4%	6%	3%	5%		4%	6%	3%	1%	2%	7%	3%	2%	6%
																								s

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
16E. Reducing erosion and flooding in your neighborhood or on your property. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftr Some	Lttl Nevtr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Very high	23	6	11	3	3	7	17	8	6	10	10	13	3	7	12	8	16	10	10	3	3	10	10
	8%	8%	14%	4%	5%	8%	8%	18%	6%	6%	12%	6%	4%	6%	19%	7%	9%	8%	8%	5%	6%	9%	8%
			d												Mn								
High	55	23	12	9	11	17	37	12	23	20	24	31	11	25	13	20	34	32	18	5	11	25	16
	18%	29%	14%	12%	18%	20%	18%	26%	24%	13%	28%	15%	15%	20%	20%	16%	19%	26%	16%	9%	23%	22%	13%
		cd						j	j		L						T						
TOTAL (Very high + High)	78	29	23	12	14	23	54	20	28	30	35	44	15	33	24	28	50	42	27	8	14	36	27
	26%	37%	28%	16%	23%	28%	26%	44%	30%	19%	40%	21%	19%	26%	39%	23%	28%	34%	24%	14%	28%	31%	21%
		D						J			L				M		T						
Medium	78	15	23	30	10	17	58	15	21	40	31	47	19	40	13	38	39	38	40	-	17	32	28
	26%	19%	27%	39%	17%	21%	28%	33%	23%	25%	35%	23%	25%	31%	21%	31%	22%	30%	35%		35%	28%	21%
			BE							1													
Low	91	23	24	24	20	29	61	7	28	56	12	78	32	36	12	43	47	25	34	28	11	30	50
	31%	30%	29%	31%	34%	34%	29%	15%	30%	36%	13%	37%	41%	28%	19%	36%	27%	21%	30%	51%	22%	26%	38%
								h	H			K	O							RS			u
Very Low	40	8	13	9	11	10	29	4	13	24	8	32	12	16	9	10	30	13	8	19	7	14	18
	14%	10%	16%	12%	18%	12%	14%	8%	14%	15%	9%	15%	15%	13%	14%	8%	17%	11%	7%	35%	15%	12%	14%
																	p			RS			
Mean	3.24	3.04	3.17	3.35	3.46	3.25	3.24	2.69	3.22	3.42	2.80	3.43	3.48	3.23	2.89	3.23	3.26	3.00	3.11	4.03	3.18	3.11	3.40
					b				H	H		K	O	o						RS			v
(DO NOT READ) Don't know/ Refused	10	3	-	1	4	4	5	-	3	7	2	8	1	2	4	2	8	5	5	-	-	3	7
	3%	4%		2%	7%	5%	2%		3%	5%	2%	4%	1%	1%	7%	2%	5%	4%	4%			2%	6%
															m								

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 16F. Protecting and restoring wetlands and forests to help absorb stormwater. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====			=====PARTY ID=====				=ENVIRONMENTALISM==		
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr anic	Hisp	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	4	Avg 3	Low 1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Very high	53	24	30	41	3	2	1	7	11	11	24	7	41	4	4	49	21	9	16	8	18	11	21	3
	18%	16%	20%	16%	18%	16%	55%	32%	14%	13%	30%	14%	18%	8%	13%	18%	23%	10%	18%	25%	37%	19%	14%	8%
											IJL						r				vWX			
High	105	47	58	92	8	3	1	-	28	28	26	23	86	16	12	93	41	30	25	10	19	26	51	9
	35%	32%	39%	36%	41%	33%	45%		34%	32%	32%	45%	37%	31%	36%	35%	43%	35%	28%	33%	40%	43%	35%	19%
																	s				X	X	x	
TOTAL (Very high + High)	158	70	88	133	11	5	2	7	39	39	49	30	127	20	15	142	62	39	40	17	37	38	72	12
	53%	47%	59%	52%	59%	49%	100%	32%	48%	45%	63%	59%	55%	39%	49%	54%	66%	45%	46%	58%	77%	62%	50%	27%
								DEFH			J						RS				WX	X	X	
Medium	90	46	43	79	6	4	-	9	36	26	15	13	64	26	10	80	23	30	31	5	7	20	47	16
	30%	31%	29%	31%	35%	37%		40%	43%	30%	20%	26%	27%	50%	30%	30%	24%	35%	36%	18%	14%	33%	32%	36%
									K	k				M							U	U	U	
Low	36	24	12	33	0	2	-	6	7	17	8	5	30	4	5	31	6	14	12	4	1	2	17	16
	12%	16%	8%	13%	2%	15%		28%	8%	20%	10%	9%	13%	7%	16%	12%	7%	16%	14%	13%	2%	3%	12%	36%
		c		E						iKl							q					Uv	UVW	
Very Low	9	4	5	8	1	-	-	-	-	2	5	2	7	2	1	8	2	3	2	2	3	1	5	1
	3%	3%	3%	3%	4%					2%	7%	4%	3%	4%	2%	3%	3%	3%	2%	6%	5%	1%	4%	1%
Mean	2.46	2.57	2.36	2.51	2.34	2.50	1.45	2.65	2.46	2.65	2.29	2.42	2.45	2.69	2.57	2.45	2.23	2.67	2.55	2.38	1.97	2.24	2.54	3.04
		c		g						K								Q	Q			Uv	UVW	
(DO NOT READ) Don't know/ Refused	4	3	1	2	-	-	-	-	-	2	1	1	4	-	1	3	1	1	1	2	1	-	3	-
	1%	2%	*%	1%						2%	1%	2%	2%		3%	1%	1%	1%	1%	5%	2%		2%	

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
16F. Protecting and restoring wetlands and forests to help absorb stormwater. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=====EDUCATION=====				==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==			
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Very high	53	16	14	14	10	17	34	11	22	20	27	27	5	23	22	21	32	33	14	4	10	28	15
	18%	20%	17%	19%	16%	20%	17%	25%	24%	13%	31%	13%	7%	18%	36%	17%	19%	27%	13%	8%	19%	25%	12%
									j		L			m	MN		ST					W	
High	105	28	37	22	17	31	72	22	31	50	31	74	30	42	18	40	63	58	38	9	17	36	49
	35%	36%	46%	29%	29%	37%	35%	48%	33%	32%	35%	35%	39%	33%	28%	33%	36%	47%	33%	16%	34%	31%	38%
			de					j									sT	T					
TOTAL (Very high + High)	158	43	52	36	27	48	107	33	53	70	57	101	36	65	40	61	95	92	52	13	26	64	64
	53%	56%	63%	48%	45%	57%	52%	73%	57%	45%	66%	48%	46%	52%	64%	51%	55%	74%	46%	24%	53%	56%	49%
			dE					iJ			L				M		ST	T					
Medium	90	26	20	23	20	23	67	10	23	57	14	75	26	40	14	41	48	23	47	20	17	36	37
	30%	34%	24%	30%	33%	27%	32%	23%	25%	36%	17%	36%	34%	32%	22%	34%	28%	19%	41%	37%	34%	31%	28%
										h		K							R	R			
Low	36	5	10	14	8	9	25	1	10	25	11	25	12	15	7	13	24	3	14	16	5	11	21
	12%	6%	12%	18%	13%	10%	12%	3%	11%	16%	13%	12%	15%	12%	11%	10%	14%	2%	12%	29%	9%	10%	16%
				b					H										R	RS			
Very Low	9	2	1	3	3	3	6	1	4	4	4	5	3	4	2	4	5	3	1	5	1	2	6
	3%	3%	1%	4%	5%	4%	3%	2%	5%	2%	4%	2%	4%	3%	3%	4%	3%	3%	*%	9%	1%	2%	5%
Mean	2.46	2.36	2.33	2.59	2.61	2.40	2.49	2.08	2.38	2.63	2.25	2.55	2.69	2.47	2.17	2.49	2.45	2.05	2.54	3.16	2.37	2.32	2.63
										Hi		K		O	o				R	RS			V
(DO NOT READ) Don't know/Refused	4	1	-	1	3	2	3	-	3	1	-	3	1	2	-	2	3	3	1	1	1	1	2
	1%	1%		1%	4%	2%	1%		3%	1%		2%	1%	2%		1%	1%	2%	1%	1%	2%	1%	2%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
16G. Planting trees and plants in our cities and towns. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====			=====PARTY ID=====				=ENVIRONMENTALISM==			
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	4	Avg 3	Low 1-2	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45	
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46	
Very high	67	35	32	56	3	-	1	16	18	11	28	9	50	10	6	61	18	21	16	12	20	20	26	2	
	23%	23%	22%	22%	17%		32%	72%	23%	13%	36%	17%	21%	20%	18%	23%	19%	24%	18%	41%	41%	32%	18%	4%	
							DE				iJL									qs	WX	X	X		
High	110	50	60	90	9	7	2	-	32	32	28	18	88	19	13	97	46	25	32	7	19	23	58	9	
	37%	34%	40%	36%	50%	64%	68%		39%	37%	36%	35%	38%	36%	42%	37%	49%	29%	37%	22%	41%	38%	40%	20%	
																	Rt				x		X		
TOTAL (Very high + High)	177	85	92	146	13	7	2	16	50	43	56	27	137	29	19	157	64	46	48	19	39	43	84	11	
	60%	57%	62%	57%	68%	64%	100%	72%	62%	51%	71%	52%	59%	56%	60%	59%	68%	53%	55%	62%	82%	70%	59%	24%	
							Def				JL						r				WX	X	X		
Medium	87	44	43	83	-	3	-	3	27	27	13	19	69	16	7	80	24	27	30	6	6	15	42	24	
	29%	30%	29%	32%		30%		13%	34%	32%	17%	38%	30%	31%	22%	30%	25%	32%	35%	21%	13%	25%	29%	53%	
									k	K	K												U	UVW	
Low	23	14	9	18	5	1	-	3	4	10	6	3	18	5	5	18	6	7	7	2	1	2	13	7	
	8%	10%	6%	7%	29%	6%		14%	5%	12%	7%	5%	8%	10%	15%	7%	6%	9%	8%	7%	2%	3%	9%	15%	
					D																	U	u		
Very Low	7	3	4	7	1	-	-	-	-	4	2	1	5	2	-	7	1	4	1	2	1	1	2	3	
	2%	2%	3%	3%	4%					4%	3%	2%	2%	3%		3%	1%	5%	1%	5%	1%	2%	2%	6%	
Mean	2.30	2.32	2.27	2.33	2.51	2.42	1.68	1.70	2.20	2.56	2.05	2.39	2.31	2.40	2.34	2.29	2.20	2.40	2.35	2.12	1.79	2.05	2.35	3.00	
										iK		k										UV	UVW		
(DO NOT READ) Don't know/ Refused	3	2	1	1	-	-	-	-	-	1	1	1	3	-	1	2	-	1	1	1	1	-	2	1	
	1%	1%	1%	1%	*					1%	2%	2%	1%		3%	1%		1%	1%	4%	2%		1%	1%	

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
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	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Very high	67	31	12	13	11	20	46	10	27	29	20	47	10	32	21	27	40	46	15	5	11	26	28
	23%	40%	15%	17%	19%	24%	22%	23%	29%	19%	23%	23%	13%	25%	33%	22%	23%	37%	13%	9%	22%	22%	22%
		CDE												m	M		ST						
High	110	27	39	26	15	27	79	23	35	50	30	80	32	44	26	50	60	45	51	14	24	39	46
	37%	35%	48%	35%	26%	33%	38%	51%	37%	32%	35%	38%	41%	35%	42%	41%	34%	36%	44%	26%	48%	34%	35%
			E					J											t				
TOTAL (Very high + High)	177	58	52	39	27	47	125	33	62	79	50	127	41	76	47	77	99	91	66	19	35	65	74
	60%	75%	63%	52%	44%	56%	61%	74%	67%	50%	57%	61%	53%	60%	75%	64%	57%	73%	58%	35%	71%	56%	57%
		DE	E					J	J						Mn		ST	T					
Medium	87	14	23	25	25	23	65	9	20	58	31	56	28	37	9	32	54	25	37	25	11	41	35
	29%	18%	29%	33%	41%	27%	31%	20%	21%	37%	36%	27%	36%	29%	14%	26%	31%	20%	32%	46%	22%	36%	27%
			b	B					HI				O	O					r	R		u	
Low	23	5	6	8	5	11	12	1	7	15	4	19	5	10	4	9	14	4	8	7	3	7	13
	8%	6%	7%	10%	8%	13%	6%	3%	7%	9%	5%	9%	6%	8%	7%	7%	8%	3%	7%	13%	6%	6%	10%
					g																		
Very Low	7	1	1	3	2	1	4	1	2	4	2	5	2	2	3	2	5	2	2	3	1	1	6
	2%	1%	2%	4%	3%	1%	2%	2%	2%	3%	2%	2%	3%	2%	4%	2%	3%	2%	2%	5%	1%	1%	4%
Mean	2.30	1.94	2.32	2.48	2.51	2.33	2.27	2.10	2.13	2.45	2.29	2.30	2.46	2.25	2.07	2.24	2.33	1.95	2.39	2.80	2.16	2.28	2.39
			B	B	B				HI				O						R	RS			
(DO NOT READ) Don't know/ Refused	3	-	-	1	2	2	1	-	3	1	-	2	1	2	-	2	2	2	2	-	-	1	2
	1%			2%	3%	3%	1%		3%	1%		1%	1%	1%		1%	1%	1%	1%			1%	2%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 16H. Eliminating bacteria and viruses from sewage and dog waste. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====			=====PARTY ID=====		=ENVIRONMENTALISM==				
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	4	Avg 3	Low 1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Very high	68	34	34	54	4	3	1	19	16	17	22	13	47	15	4	65	16	26	13	14	17	14	29	9
	23%	23%	23%	21%	22%	31%	32%	86%	20%	19%	28%	25%	20%	29%	12%	24%	17%	30%	15%	47%	36%	23%	20%	19%
								DEF										qS		QS	wx			
High	107	46	61	89	12	3	1	-	34	24	26	22	89	16	12	95	42	25	33	7	17	22	59	9
	36%	31%	41%	35%	67%	33%	23%		42%	28%	34%	44%	38%	30%	37%	36%	45%	29%	38%	22%	37%	36%	41%	19%
					Df						j						r				x		X	
TOTAL (Very high + High)	175	81	95	143	16	6	1	19	50	41	49	35	136	30	15	159	58	50	46	21	35	36	88	17
	59%	54%	64%	56%	89%	63%	55%	86%	62%	48%	62%	69%	58%	58%	49%	60%	62%	59%	52%	69%	73%	59%	61%	38%
					D					j	J										X	x	X	
Medium	68	39	29	64	1	2	-	3	22	21	15	10	53	13	9	60	21	18	25	4	7	11	35	16
	23%	26%	20%	25%	8%	21%		14%	27%	25%	19%	20%	23%	26%	28%	23%	22%	21%	29%	14%	14%	18%	24%	36%
				E																				Uv
Low	29	19	10	25	1	2	-	-	7	14	7	1	22	7	4	25	6	9	11	3	3	9	11	7
	10%	12%	7%	10%	4%	16%			8%	16%	9%	2%	9%	14%	14%	9%	6%	11%	13%	9%	5%	14%	8%	15%
										L	L													
Very Low	12	6	6	12	-	-	-	-	-	5	6	1	11	1	-	12	2	5	3	1	2	2	5	3
	4%	4%	4%	5%						6%	7%	2%	5%	2%		4%	2%	6%	4%	4%	4%	3%	3%	7%
Mean	2.33	2.41	2.25	2.39	1.94	2.22	1.42	1.29	2.25	2.58	2.32	2.06	2.37	2.31	2.48	2.31	2.26	2.32	2.52	1.97	2.00	2.35	2.31	2.70
				EH	h					L									qT		u	u	UW	
(DO NOT READ) Don't know/ Refused	13	5	8	11	-	-	1	-	2	5	2	3	12	-	3	10	7	2	2	1	2	4	5	2
	4%	3%	5%	4%			45%		3%	6%	3%	7%	5%		9%	4%	8%	3%	2%	3%	4%	4%	4%	4%

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 16H. Eliminating bacteria and viruses from sewage and dog waste. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Very high	68	33	14	9	11	17	51	11	21	36	21	48	11	34	16	25	43	44	18	6	13	22	31
	23%	43%	17%	12%	18%	20%	25%	26%	22%	23%	24%	23%	15%	27%	26%	21%	25%	36%	16%	11%	26%	19%	24%
		CDE												m			ST						
High	107	25	41	21	20	32	72	23	30	52	30	77	24	44	26	39	66	45	47	15	19	40	47
	36%	33%	49%	28%	32%	38%	35%	51%	32%	33%	34%	37%	31%	35%	41%	32%	38%	36%	41%	28%	39%	35%	36%
			De					ij															
TOTAL (Very high + High)	175	59	54	30	31	48	123	34	51	88	51	125	35	78	42	64	109	89	65	21	32	62	78
	59%	76%	66%	40%	51%	58%	60%	77%	54%	56%	58%	60%	46%	62%	68%	53%	63%	72%	57%	39%	66%	54%	60%
		DE	De					IJ						m	M		sT		t				
Medium	68	13	12	27	17	19	50	4	22	42	18	50	26	24	15	32	36	16	31	18	6	32	31
	23%	16%	14%	35%	29%	22%	24%	9%	24%	27%	21%	24%	33%	19%	23%	27%	21%	13%	27%	32%	12%	28%	24%
				BC	C				H	H			n						R	R		U	u
Low	29	2	10	12	5	7	21	3	9	17	11	18	11	11	4	14	15	11	10	9	4	15	11
	10%	2%	12%	16%	8%	8%	10%	7%	10%	11%	13%	9%	14%	9%	6%	12%	8%	9%	8%	16%	8%	13%	8%
			B	B																			
Very Low	12	2	1	4	5	5	6	1	4	7	4	7	4	6	1	6	5	3	3	6	1	3	8
	4%	3%	1%	5%	9%	6%	3%	1%	4%	4%	5%	4%	5%	5%	1%	5%	3%	3%	2%	11%	2%	2%	6%
																							c
Mean	2.33	1.86	2.26	2.73	2.54	2.39	2.28	2.01	2.38	2.39	2.38	2.30	2.63	2.26	2.14	2.47	2.23	2.02	2.37	2.87	2.09	2.42	2.35
			B	BC	B				h	H			NO			q			R	RS		u	
(DO NOT READ) Don't know/ Refused	13	2	5	3	2	5	7	3	7	3	3	9	2	6	1	4	9	5	6	1	6	4	3
	4%	3%	7%	4%	4%	6%	4%	6%	7%	2%	3%	4%	2%	5%	2%	3%	5%	4%	5%	2%	13%	3%	2%
																							vW

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
16I. Ensuring the safety of fish and shellfish that you might eat. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====			=====PARTY ID=====				=ENVIRONMENTALISM==		
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Very high	65	24	41	56	4	2	2	2	8	15	30	12	53	11	7	58	27	15	16	7	18	12	28	6
	22%	16%	28%	22%	24%	16%	77%	8%	10%	18%	38%	23%	23%	21%	21%	22%	29%	18%	18%	22%	39%	20%	20%	14%
			b				defH				IJL										vWX			
High	138	72	66	115	11	3	1	17	49	37	29	24	110	19	13	126	47	41	36	15	19	36	66	18
	47%	49%	44%	45%	58%	33%	23%	77%	59%	43%	37%	47%	47%	37%	41%	47%	50%	48%	41%	50%	39%	59%	46%	40%
									K												u			
TOTAL (Very high + High)	203	96	107	170	15	5	2	19	57	52	58	36	163	30	20	184	74	56	51	22	37	48	94	24
	68%	65%	72%	67%	82%	49%	100%	86%	69%	61%	74%	70%	70%	58%	62%	69%	78%	66%	59%	72%	78%	79%	66%	53%
							DEF				j						rS				X	X		
Medium	53	29	24	48	1	5	-	-	18	18	10	7	34	17	6	47	13	14	20	6	6	9	28	9
	18%	20%	16%	19%	7%	51%			22%	21%	13%	13%	15%	33%	18%	18%	14%	17%	23%	20%	14%	15%	20%	21%
				e		dE							m											
Low	26	16	10	22	2	-	-	3	4	12	5	5	22	4	5	21	6	10	9	1	3	2	13	8
	9%	11%	7%	9%	11%			14%	5%	14%	6%	10%	9%	8%	15%	8%	6%	11%	11%	4%	5%	3%	9%	19%
									k															uV
Very Low	9	4	5	9	-	-	-	-	2	2	3	1	8	1	-	9	1	2	5	1	1	2	4	2
	3%	3%	3%	3%					3%	2%	4%	2%	4%	1%		3%	1%	2%	6%	4%	1%	3%	3%	5%
																								q
Mean	2.23	2.34	2.12	2.26	2.05	2.36	1.23	2.20	2.31	2.38	2.01	2.17	2.22	2.32	2.28	2.22	1.99	2.28	2.46	2.17	1.89	2.11	2.28	2.60
		c		g		g				K								Q	Q			U	UVw	
(DO NOT READ) Don't know/ Refused	6	3	2	5	-	-	-	-	-	2	2	2	6	-	2	4	1	4	1	-	1	-	4	1
	2%	2%	2%	2%						2%	2%	4%	3%		6%	2%	1%	4%	1%		2%		3%	2%

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
16I. Ensuring the safety of fish and shellfish that you might eat. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=====EDUCATION=====				==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==			
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Very high	65	23	13	17	12	21	41	18	21	26	19	46	17	21	19	26	38	42	19	3	17	18	27
	22%	30%	16%	22%	20%	25%	20%	39%	22%	17%	21%	22%	22%	17%	30%	22%	22%	34%	17%	5%	34%	16%	21%
								iJ										ST	t		V		
High	138	41	46	27	23	35	103	20	41	76	38	101	30	69	29	57	80	54	57	27	24	57	58
	47%	53%	56%	36%	38%	42%	50%	45%	44%	48%	43%	48%	39%	55%	47%	47%	46%	44%	50%	49%	48%	49%	44%
		d	De											m									
TOTAL (Very high + High)	203	64	59	44	35	56	143	38	61	102	56	147	47	91	48	83	118	96	76	30	40	75	85
	68%	83%	72%	58%	58%	67%	69%	84%	66%	65%	65%	70%	61%	72%	77%	69%	68%	77%	67%	54%	81%	65%	65%
		DE	d					IJ							m			T			VW		
Medium	53	10	15	17	10	9	43	6	20	27	16	37	22	20	7	28	25	19	24	10	7	30	17
	18%	13%	19%	23%	17%	11%	21%	14%	21%	17%	19%	18%	29%	16%	12%	23%	14%	16%	21%	18%	14%	26%	13%
							f						nO									uW	
Low	26	1	7	12	6	11	13	1	6	19	10	16	6	8	6	4	22	3	11	10	1	6	19
	9%	1%	9%	16%	9%	13%	6%	2%	6%	12%	11%	8%	8%	6%	9%	4%	12%	2%	9%	18%	2%	5%	15%
			b	B						H							P		r	R			UV
Very Low	9	2	1	1	5	4	5	-	4	4	4	4	-	6	1	2	7	3	1	5	1	2	6
	3%	2%	1%	1%	9%	5%	2%		5%	3%	5%	2%		5%	1%	2%	4%	2%	1%	9%	2%	1%	5%
					cd															s			
Mean	2.23	1.92	2.23	2.38	2.46	2.27	2.21	1.78	2.26	2.34	2.36	2.17	2.23	2.26	2.03	2.14	2.29	1.94	2.26	2.76	1.92	2.25	2.36
			B	B	B				H	H								R	RS		U	U	
(DO NOT READ) Don't know/ Refused	6	1	-	1	4	4	2	-	2	4	-	5	2	2	1	3	3	3	2	-	-	3	3
	2%	1%		2%	6%	4%	1%		2%	3%		2%	3%	1%	1%	2%	2%	2%	2%			2%	2%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
16J. Making the water a safe place to play for kids and pets. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====		=====PARTY ID=====				=ENVIRONMENTALISM==			
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	4	Avg 3	Low 1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Very high	98	42	56	82	4	3	2	16	32	18	31	16	68	22	10	88	29	28	25	15	19	26	46	7
	33%	28%	38%	32%	21%	33%	100%	72%	39%	21%	40%	31%	29%	42%	31%	33%	31%	33%	29%	51%	39%	43%	32%	16%
									DEF												X	X	X	
High	127	64	62	107	11	3	-	3	29	43	33	22	107	17	16	111	46	36	37	7	20	24	64	19
	43%	43%	42%	42%	61%	31%		13%	36%	50%	42%	43%	46%	32%	50%	42%	49%	42%	43%	25%	41%	39%	44%	43%
					H																			
TOTAL (Very high + High)	225	106	118	189	15	7	2	19	61	60	64	38	176	38	26	199	76	63	63	23	38	50	110	27
	76%	72%	80%	74%	82%	64%	100%	86%	75%	71%	82%	74%	76%	74%	81%	75%	80%	74%	72%	76%	81%	82%	77%	59%
									DEF			j									X	X	x	
Medium	46	31	16	46	1	2	-	-	18	14	7	7	36	8	1	45	14	12	17	3	4	9	20	13
	16%	21%	10%	18%	6%	21%			22%	16%	9%	13%	16%	15%	3%	17%	15%	14%	20%	9%	9%	15%	14%	28%
		C		e												O								Uw
Low	18	7	11	14	2	2	-	3	2	7	3	5	13	5	3	15	5	7	4	2	3	1	9	4
	6%	5%	7%	5%	12%	15%		14%	3%	9%	4%	10%	5%	10%	10%	6%	5%	8%	5%	7%	7%	2%	6%	10%
Very Low	6	2	4	6	-	-	-	-	-	3	3	-	5	1	1	5	-	2	2	1	1	1	3	2
	2%	1%	3%	2%						3%	4%		2%	1%	3%	2%		3%	2%	4%	1%	1%	2%	3%
Mean	2.00	2.07	1.94	2.03	2.09	2.18	1.00	1.57	1.88	2.23	1.89	2.02	2.04	1.97	2.01	2.00	1.94	2.06	2.08	1.83	1.87	1.79	2.01	2.41
				g	g					iK													UVW	
(DO NOT READ) Don't know/ Refused	3	2	1	1	-	-	-	-	-	1	1	1	3	-	1	2	-	1	1	1	1	-	2	-
	1%	1%	*%	*%						1%	1%	2%	1%		3%	1%		1%	1%	4%	2%		1%	

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
16J. Making the water a safe place to play for kids and pets. AS NEEDED: Please use the scale very high, high, medium, low, or very low priority.

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Very high	98	43	15	24	15	25	72	24	40	35	34	64	21	43	25	44	54	62	32	3	16	34	46
	33%	55%	18%	32%	25%	30%	35%	53%	43%	22%	39%	31%	27%	34%	41%	36%	31%	50%	28%	6%	32%	30%	35%
		CDE		c				J	J									ST	T				
High	127	24	48	32	23	35	88	18	27	79	28	99	34	56	24	53	72	46	56	24	28	48	50
	43%	30%	58%	42%	38%	42%	43%	40%	29%	51%	32%	47%	43%	44%	38%	44%	41%	37%	49%	44%	56%	42%	38%
			BdE						I			k									w		
TOTAL (Very high + High)	225	67	62	56	38	60	160	42	67	114	62	163	55	99	49	97	126	108	88	27	43	82	96
	76%	86%	76%	74%	64%	72%	77%	92%	72%	73%	71%	78%	71%	78%	78%	80%	72%	87%	77%	50%	88%	72%	74%
		E						IJ										sT	T		VW		
Medium	46	9	16	11	11	12	34	2	17	27	15	31	14	18	9	16	30	11	18	17	5	24	17
	16%	11%	19%	14%	18%	14%	16%	4%	18%	17%	17%	15%	18%	14%	14%	13%	17%	9%	16%	31%	10%	21%	13%
								H	H											Rs		u	
Low	18	1	3	8	7	6	11	2	4	12	7	11	8	3	5	3	15	2	7	7	1	4	13
	6%	1%	3%	10%	11%	7%	5%	4%	5%	8%	9%	5%	10%	3%	8%	3%	8%	1%	6%	13%	1%	4%	10%
				Bc	B												p			r			U
Very Low	6	2	1	1	2	4	2	-	2	4	3	3	1	4	-	3	3	1	1	3	1	3	2
	2%	2%	1%	1%	4%	5%	1%		2%	2%	3%	1%	1%	3%		3%	2%	1%	1%	6%	1%	3%	2%
Mean	2.00	1.64	2.12	2.07	2.27	2.14	1.94	1.58	1.92	2.18	2.05	1.99	2.14	1.96	1.89	1.90	2.08	1.64	2.01	2.69	1.84	2.07	2.03
			B	B	B	g			h	HI			o						R	RS			
(DO NOT READ) Don't know/ Refused	3	-	-	1	2	2	1	-	3	-	-	2	-	2	-	2	1	2	1	-	-	1	2
	1%			1%	3%	2%	1%		3%			1%		1%		1%	1%	1%	1%			1%	2%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C1. These last few questions are to classify the survey only. What is your age? - READ LIST

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG===			=====PARTY ID=====				=ENVIRONMENTALISM==			
	ALL	Male	Female	White	African American	Asian	Other	Hispanic	<35	35-49	50-64	65+	Own	Rent	Yes	No	Dem	Rep	Othr	Ind/Not	Reg	High 5	Avg 4	Low 3	1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45	
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46	
Less than 35	82	58	24	68	6	-	-	14	82	-	-	-	40	30	13	69	32	14	25	11	8	19	41	13	
	27%	39%	16%	27%	34%			64%	100%				17%	59%	40%	26%	34%	16%	28%	38%	17%	31%	29%	30%	
		C												M			R		R	R		U	U	u	
35 to 49	86	37	49	73	3	8	-	6	-	86	-	-	80	5	9	77	21	27	31	7	11	14	47	14	
	29%	25%	33%	29%	15%	77%		28%		100%			34%	10%	28%	29%	22%	31%	36%	24%	24%	22%	32%	31%	
						DE								N					q						
50 to 64	79	35	43	70	5	1	1	2	-	-	79	-	71	8	6	72	23	26	22	8	15	18	34	11	
	26%	24%	29%	27%	27%	6%	23%	8%			100%		31%	15%	19%	27%	24%	30%	25%	26%	32%	30%	24%	25%	
65 or more	51	19	32	43	4	2	2	-	-	-	-	51	41	8	4	47	19	19	9	3	13	10	22	6	
	17%	13%	21%	17%	21%	17%	77%					100%	18%	16%	13%	18%	21%	23%	10%	11%	27%	16%	15%	14%	
			b				Def										s	s							
(DO NOT READ) Not sure/ Refused	1	-	1	-	1	-	-	-	-	-	-	-	1	-	-	1	-	-	1	-	-	1	-	-	
	*%		*%		4%								*%			*%			1%			1%			

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C1. These last few questions are to classify the survey only. What is your age? - READ LIST

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftrn Some	Lttl Nevtr	High	Midl	Low	Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Less than 35	82	35	21	14	11	8	72	13	32	34	22	60	26	36	15	44	37	31	32	17	8	36	36
	27%	45%	26%	18%	19%	10%	35%	29%	34%	22%	25%	29%	33%	28%	24%	36%	22%	25%	28%	32%	16%	31%	27%
		CDE					F		J							Q						U	U
35 to 49	86	11	24	30	21	29	55	10	31	45	32	53	20	40	18	39	46	32	31	22	22	30	34
	29%	14%	29%	40%	34%	34%	26%	22%	33%	29%	36%	25%	25%	32%	29%	32%	27%	26%	27%	39%	44%	26%	26%
			b	B	B																	VW	
50 to 64	79	16	20	27	15	29	48	11	23	45	20	58	19	31	21	28	50	38	29	12	17	33	28
	26%	20%	25%	36%	25%	34%	23%	24%	24%	29%	23%	28%	25%	24%	33%	23%	29%	30%	26%	21%	34%	29%	21%
65 or more	51	15	17	5	13	18	32	11	8	32	13	37	13	19	8	10	40	22	23	4	3	16	32
	17%	20%	20%	6%	21%	21%	15%	24%	8%	21%	15%	18%	17%	15%	13%	8%	23%	18%	20%	8%	7%	14%	25%
		d	D		D		i		I							P	t	T					Uv
(DO NOT READ) Not sure/ Refused	1	1	-	-	-	-	1	1	-	-	-	1	-	-	1	-	1	1	-	-	-	-	1
	*%	1%					*%	2%				*%				*%	1%						1%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C2. What is the last grade in school that you completed? - DO NOT READ LIST

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG===			=====PARTY ID=====				=ENVIRONMENTALISM==			
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr anic	Hisp	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Othr	Ind/ Not Reg	High 5	Avg 4	Low 3	1-2	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45	
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46	
Less than 12th grade	5	-	5	5	-	-	-	-	-	1	2	2	5	-	-	5	2	1	2	-	2	1	1	1	
	2%		3%	2%						1%	2%	5%	2%			2%	2%	1%	3%		4%	2%	1%	3%	
12th grade/High school diploma	73	53	20	55	8	2	2	16	35	10	14	13	41	23	8	64	20	19	16	18	14	12	37	10	
	24%	35%	13%	22%	45%	15%	77%	72%	43%	11%	18%	26%	18%	45%	26%	24%	21%	22%	18%	60%	30%	19%	26%	21%	
			C		Df		dF	DF	JK			j		M						QRS					
Some college/Associate's degree	82	38	44	74	7	2	-	3	21	24	20	17	64	15	10	72	34	24	19	6	12	11	42	17	
	28%	26%	30%	29%	35%	22%		13%	26%	28%	26%	33%	28%	30%	31%	27%	36%	28%	21%	19%	26%	19%	29%	37%	
																	s							v	
Four-year degree/Bachelor's degree	76	26	50	68	3	3	1	3	14	30	27	5	66	8	12	64	20	28	27	1	8	19	39	10	
	26%	18%	34%	27%	14%	31%	23%	14%	17%	36%	35%	9%	28%	16%	38%	24%	21%	33%	31%	4%	17%	31%	27%	22%	
			B							IL	IL						t	T	T						
Graduate work/Advanced degree	60	32	28	51	1	3	-	-	11	21	15	13	55	5	2	58	19	12	24	5	10	18	24	8	
	20%	21%	19%	20%	6%	32%			14%	24%	19%	25%	24%	10%	5%	22%	20%	14%	27%	17%	21%	29%	17%	17%	
				E									n			O			r						
(DO NOT READ) Not sure/Refused	1	-	1	1	-	-	-	-	-	-	-	1	1	-	-	1	-	1	-	-	1	-	-	-	
	*%		1%	*%								2%	*%			*%		1%			2%				

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C2. What is the last grade in school that you completed? - DO NOT READ LIST

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Less than 12th grade	5	5	-	-	-	2	4	2	-	3	2	3	1	2	2	1	4	3	2	-	2	-	3
	2%	7%				2%	2%	5%		2%	2%	1%	1%	2%	3%	1%	2%	3%	2%		4%		2%
12th grade/High school diploma	73	73	-	-	-	18	53	14	20	36	19	53	16	30	17	39	34	38	28	5	9	26	36
	24%	93%				21%	25%	32%	21%	23%	22%	25%	20%	24%	27%	32%	19%	31%	25%	9%	17%	22%	28%
																Q		T	T				
Some college/Associate's degree	82	-	82	-	-	26	55	7	33	42	26	56	22	37	15	25	56	26	31	24	16	34	31
	28%		100%			31%	27%	15%	35%	27%	30%	27%	29%	29%	23%	21%	32%	21%	27%	43%	33%	30%	24%
									H								p			Rs			
Four-year degree/Bachelor's degree	76	-	-	76	-	20	53	17	22	38	27	49	19	33	18	32	43	34	28	12	15	26	34
	26%			100%		24%	26%	37%	23%	24%	32%	23%	24%	26%	28%	27%	25%	28%	25%	21%	31%	23%	26%
Graduate work/Advanced degree	60	-	-	-	60	17	42	5	19	36	12	47	20	22	12	24	36	22	24	15	7	29	24
	20%				100%	21%	20%	11%	20%	23%	14%	22%	25%	18%	19%	20%	21%	17%	21%	27%	15%	25%	19%
									h														
(DO NOT READ) Not sure/Refused	1	-	-	-	-	1	-	-	-	1	-	1	-	1	-	-	1	-	1	-	-	-	1
	*%					1%				1%		1%		1%			1%		1%				1%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
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 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C3. Do you own or rent your home?

	=GENDER==		=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG===			=====PARTY ID=====				=ENVIRONMENTALISM=			
	ALL	Male	Fe- male	White	Afr- Amer	As- ian	Hisp Othr	anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Own	232	107	125	204	12	10	2	8	40	80	71	41	232	-	23	209	73	68	75	16	40	46	110	37
	78%	72%	84%	80%	67%	100%	100%	36%	48%	94%	90%	81%	100%		73%	79%	77%	79%	86%	54%	84%	75%	76%	83%
			B	h			DEH	DEH		Il	I	I						t	T					
Rent	52	32	20	45	6	-	-	7	30	5	8	8	-	52	6	46	19	17	10	7	8	14	25	5
	18%	22%	13%	18%	33%			32%	37%	6%	10%	17%		100%	19%	17%	20%	19%	11%	23%	16%	23%	17%	12%
		c						JKL																
(DO NOT READ) Not sure/ Refused	13	9	4	6	-	-	-	7	12	-	-	1	-	-	2	10	2	1	2	7	-	1	9	2
	4%	6%	2%	2%				32%	14%			2%			8%	4%	2%	1%	3%	23%		2%	6%	5%
		C						L											QRS				v	

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C3. Do you own or rent your home?

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/ Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Own	232	46	64	66	55	77	151	36	67	127	67	164	56	98	54	94	137	104	82	45	45	83	102
	78%	60%	78%	86%	91%	92%	73%	80%	72%	81%	77%	79%	73%	77%	87%	78%	78%	84%	72%	82%	92%	73%	79%
			B	B	BC	G									Mn		S				VW		
Rent	52	23	15	8	5	4	46	8	19	25	13	39	19	20	6	27	25	13	27	10	4	22	24
	18%	30%	19%	11%	9%	4%	22%	17%	21%	16%	15%	19%	24%	16%	9%	22%	14%	11%	23%	18%	8%	19%	19%
		DE	e				F						O					R				u	u
(DO NOT READ) Not sure/ Refused	13	8	2	2	-	4	9	1	7	5	7	6	2	8	2	-	13	7	6	-	-	9	4
	4%	10%	3%	3%		4%	4%	3%	7%	3%	8%	3%	3%	6%	4%		7%	6%	5%			8%	3%
		CD							hJ		L											W	

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C4. Is your family involved in farming or agriculture?

	=GENDER=		=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG===			=====PARTY ID=====				=ENVIRONMENTALISM=			
	ALL	Male	Fe- male	White	Afr- Amer	As- ian	Othr anic	Hisp	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Yes	32	12	19	23	4	-	2	5	13	9	6	4	23	6	32	-	12	3	14	3	6	6	17	2
	11%	8%	13%	9%	23%		77%	23%	15%	10%	8%	8%	10%	12%	100%		12%	3%	17%	10%	14%	10%	12%	4%
					d		De										R	R					x	
No	265	136	129	231	14	10	1	17	69	77	72	47	209	46	-	265	83	83	73	27	41	54	126	43
	89%	92%	87%	91%	77%	100%	23%	77%	85%	90%	91%	92%	90%	88%		100%	87%	97%	83%	90%	86%	89%	88%	96%
				G	g	DEG											QS						w	
(DO NOT READ) Not sure/ Refused	1	-	1	1	-	-	-	-	-	-	1	-	1	-	-	-	1	-	-	-	-	1	-	-
	*%		*%	*%						1%			*%				1%					1%		

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C4. Is your family involved in farming or agriculture?

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Yes	32	8	10	12	2	14	16	4	14	14	9	21	17	7	6	18	14	14	15	2	3	13	16
	11%	11%	12%	16%	3%	16%	8%	8%	15%	9%	11%	10%	22%	5%	10%	15%	8%	11%	13%	4%	5%	11%	12%
			E	E		g							NO						t				
No	265	69	72	64	58	70	190	41	79	143	78	187	61	119	56	104	160	109	99	53	46	102	114
	89%	89%	88%	84%	96%	83%	92%	92%	84%	91%	89%	90%	78%	94%	90%	85%	92%	88%	87%	96%	94%	89%	88%
					cD		F							M	M					s			
(DO NOT READ) Not sure/ Refused	1	-	-	-	1	1	-	-	1	-	-	1	-	1	-	-	1	1	-	-	1	-	-
	*%				1%	1%			1%			*%		*%			*%	*%			1%		

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C5. Are you registered to vote? IF YES: Are you registered as a Democrat, a Republican, with a third party, or are you not affiliated with a political party?

	=GENDER==			=====RACE/ETHNICITY=====				=====AGE=====				===HOME===		===AG===		=====PARTY ID=====				=ENVIRONMENTALISM==				
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	4	Avg 3	Low 1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
Democrat	95	45	50	78	12	3	2	3	32	21	23	19	73	19	12	83	95	-	-	-	20	19	40	16
	32%	30%	34%	31%	66%	33%	100%	13%	39%	24%	29%	38%	32%	37%	37%	31%	100%				43%	31%	28%	36%
					DH		DEFH														w			
Republican	85	46	40	85	-	2	-	7	14	27	26	19	68	17	3	83	-	85	-	-	8	20	42	15
	29%	31%	27%	33%		15%		32%	17%	31%	33%	38%	29%	32%	8%	31%		100%			17%	32%	30%	34%
									i	I	I					O								u
Third party	6	5	1	6	1	1	-	-	2	2	2	-	6	-	1	5	-	-	6	-	1	1	3	1
	2%	4%	*%	2%	3%	6%			3%	2%	2%		3%		3%	2%			7%		2%	1%	2%	3%
Not affiliated/ Independent	61	23	38	54	4	3	-	3	22	18	14	7	51	7	10	50	-	-	61	-	9	16	28	7
	20%	16%	25%	21%	20%	31%		14%	27%	21%	18%	13%	22%	13%	32%	19%			70%		20%	27%	19%	15%
				b																				
Registered but won't disclose party or not sure	21	7	13	14	1	-	-	-	-	12	6	2	18	3	3	17	-	-	21	-	3	3	11	3
	7%	5%	9%	6%	8%					14%	8%	4%	8%	6%	11%	6%			24%		7%	6%	8%	6%
										l														
(DO NOT READ) Not registered/ Not sure if registered	30	22	8	18	0	2	-	9	11	7	8	3	16	7	3	27	-	-	-	30	5	2	19	3
	10%	15%	5%	7%	2%	15%		40%	14%	9%	10%	7%	7%	13%	9%	10%				100%	11%	4%	13%	6%
				c																				v

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
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 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C5. Are you registered to vote? IF YES: Are you registered as a Democrat, a Republican, with a third party, or are you not affiliated with a political party?

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Democrat	95	22	34	20	19	24	68	9	30	54	33	62	20	42	25	43	51	40	38	15	28	37	30
	32%	28%	41%	26%	32%	28%	33%	19%	32%	34%	38%	29%	26%	33%	40%	35%	29%	33%	33%	28%	57%	32%	23%
			d							h											VW		
Republican	85	20	24	28	12	27	55	11	22	53	17	68	27	39	12	35	49	30	34	18	11	26	49
	29%	26%	29%	37%	21%	32%	27%	24%	24%	34%	20%	33%	35%	31%	19%	29%	28%	25%	30%	33%	22%	22%	37%
				e								k	o									uV	
Third party	6	3	1	2	-	1	5	4	-	2	-	6	1	1	4	3	3	4	1	2	-	4	2
	2%	4%	1%	2%		1%	2%	8%		1%		3%	1%	1%	6%	3%	2%	3%	*%	3%		3%	2%
Not affiliated/ Independent	61	10	13	20	17	21	40	15	18	28	20	41	17	22	15	23	37	19	28	13	10	21	29
	20%	13%	16%	27%	28%	25%	19%	34%	19%	18%	22%	20%	22%	17%	23%	19%	21%	15%	25%	24%	20%	19%	23%
				b	b			iJ															
Registered but won't disclose party or not sure	21	5	4	5	7	4	16	1	8	11	4	16	7	7	4	9	11	10	9	2	-	12	8
	7%	6%	5%	6%	12%	5%	8%	3%	8%	7%	5%	7%	9%	6%	6%	8%	6%	8%	8%	3%		11%	6%
(DO NOT READ) Not registered/ Not sure if registered	30	18	6	1	5	7	23	5	16	9	13	17	5	15	3	7	23	20	5	5	1	15	12
	10%	23%	7%	1%	8%	9%	11%	12%	17%	5%	15%	8%	7%	12%	5%	6%	13%	17%	4%	9%	1%	13%	9%
		CDE			d				J							P	S					U	U

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
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 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C6. On a scale of 1 to 5, where 5 means you consider yourself to be a strong environmentalist, 3 is average, and 1 is not an environmentalist at all, where would you put yourself?

	=GENDER==		=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====		=====PARTY ID=====				=ENVIRONMENTALISM=				
	ALL	Male	Fe- male	White	Afr- Amer	As- ian	Othr anic	Hisp	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
5 - Strong environmentalist	48	21	26	40	4	2	1	-	8	11	15	13	40	8	6	41	20	8	14	5	48	-	-	-
	16%	14%	18%	16%	21%	16%	32%		10%	13%	19%	25%	17%	15%	20%	16%	21%	9%	16%	18%	100%			
												i					r							
4	61	28	32	56	2	2	1	7	19	14	18	10	46	14	6	54	19	20	20	2	-	61	-	-
	20%	19%	22%	22%	11%	23%	23%	32%	23%	16%	23%	19%	20%	27%	19%	20%	20%	23%	23%	8%	-	100%		
3 - Average	144	72	72	119	8	6	1	12	41	47	34	22	110	25	17	126	40	42	42	19	-	-	144	-
	48%	49%	48%	47%	45%	61%	45%	55%	50%	55%	43%	43%	47%	48%	55%	48%	42%	50%	49%	64%			100%	
2	20	15	5	18	2	-	-	-	7	4	6	3	14	4	-	20	9	6	4	2	-	-	-	20
	7%	10%	3%	7%	10%				8%	5%	8%	6%	6%	8%		8%	10%	7%	5%	6%				45%
			c																					
1 - Not environmentalist at all	25	11	14	22	2	-	-	3	7	10	5	3	23	1	2	23	7	10	7	1	-	-	-	25
	8%	7%	9%	9%	12%			13%	8%	11%	7%	6%	10%	3%	6%	9%	8%	11%	8%	4%				55%
Mean	3.29	3.23	3.35	3.29	3.19	3.55	3.86	3.05	3.18	3.15	3.40	3.51	3.28	3.44	3.47	3.27	3.38	3.12	3.35	3.31	5.00	4.00	3.00	1.45
											j	j									x	x	x	

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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C6. On a scale of 1 to 5, where 5 means you consider yourself to be a strong environmentalist, 3 is average, and 1 is not an environmentalist at all, where would you put yourself?

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftrn Some	Lttl Nevtr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
5 - Strong environmentalist	48	16	12	8	10	15	32	8	10	27	14	33	6	20	17	22	24	30	11	5	8	18	19
	16%	20%	15%	11%	17%	18%	16%	18%	11%	17%	16%	16%	8%	16%	28%	18%	14%	25%	10%	9%	17%	16%	15%
															M								
4	61	13	11	19	18	13	45	11	17	33	17	44	13	29	10	27	34	29	27	4	11	23	26
	20%	16%	14%	25%	30%	16%	22%	24%	18%	21%	19%	21%	17%	23%	16%	22%	19%	24%	24%	8%	22%	20%	20%
					C														T				
3 - Average	144	39	42	39	24	43	98	24	55	65	45	99	43	64	25	58	86	53	61	27	24	55	65
	48%	50%	51%	51%	41%	52%	48%	53%	59%	41%	52%	47%	56%	50%	40%	48%	49%	43%	54%	49%	49%	48%	50%
									J														
2	20	9	2	5	4	5	15	1	3	16	4	17	10	1	6	8	12	5	9	6	1	10	9
	7%	12%	3%	6%	7%	6%	7%	3%	3%	10%	4%	8%	12%	1%	9%	7%	7%	4%	8%	10%	3%	8%	7%
										i			N		N								
1 - Not environmentalist at all	25	2	14	5	4	8	16	1	8	16	8	17	5	13	4	6	19	5	6	13	5	9	10
	8%	2%	17%	7%	6%	9%	8%	2%	9%	10%	9%	8%	6%	10%	7%	5%	11%	4%	5%	24%	10%	8%	8%
			BdE							h							p				RS		
Mean	3.29	3.41	3.06	3.27	3.44	3.28	3.30	3.53	3.18	3.26	3.29	3.28	3.08	3.33	3.49	3.42	3.18	3.60	3.25	2.69	3.32	3.27	3.27
		c			C			i						m	M	q		ST	T				

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
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Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C7. Are you Hispanic or Latino?

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG===			=====PARTY ID=====				=ENVIRONMENTALISM==			
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr anic	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45	
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46	
Yes	22	17	5	13	-	-	-	22	14	6	2	-	8	7	5	17	3	7	3	9	-	7	12	3	
	7%	11%	3%	5%				100%	17%	7%	2%		3%	14%	16%	6%	3%	8%	4%	29%		12%	8%	7%	
		C						D	JK	K				M				QS		QRS					
No	273	130	143	241	19	10	2	-	68	77	77	51	222	45	27	246	92	78	83	21	48	54	130	42	
	92%	88%	96%	94%	100%	100%	100%		83%	91%	98%	100%	96%	86%	84%	93%	97%	91%	95%	71%	100%	88%	90%	93%	
			B		D	D	D			IJ	IJK		N				RT	T	rT		VWX				
(DO NOT READ) Not sure/ Refused	2	1	1	1	-	-	-	-	-	2	-	-	2	-	-	2	-	1	1	-	-	-	2	-	
	1%	1%	1%	*%					2%				1%			1%		1%	1%				1%		

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C7. Are you Hispanic or Latino?

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftrn Some	Lttl Nevtr	High	Midl	Low	Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Yes	22	16	3	3	-	5	17	-	9	13	10	12	-	17	3	7	15	9	10	3	3	7	12
	7%	20%	4%	4%		6%	8%		9%	8%	12%	6%		13%	5%	6%	9%	7%	9%	5%	6%	6%	9%
			CD								L					O							
No	273	62	79	73	58	78	189	45	84	143	77	195	76	109	59	114	158	115	103	51	46	107	117
	92%	80%	96%	96%	97%	93%	91%	100%	90%	91%	88%	93%	98%	87%	95%	94%	90%	93%	90%	93%	94%	93%	90%
			B	B	B			IJ				K	N		N	Q							
(DO NOT READ) Not sure/Refused	2	-	-	-	2	1	1	-	1	1	-	2	2	-	-	-	2	-	1	1	-	1	1
	1%				3%	1%	*%		1%	1%		1%	2%			1%		1%	2%		1%	1%	

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C8. Do you most closely identify your race as (randomize): [White, African-American, Asian], or some other? (Allow multiple.)

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG===			=====PARTY ID=====				=ENVIRONMENTALISM=		
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46
White	255	129	125	255	3	2	1	13	68	73	70	43	204	45	23	231	78	85	74	18	40	56	119	40
	86%	87%	84%	100%	15%	21%	32%	60%	84%	86%	89%	86%	88%	87%	73%	87%	82%	99%	85%	59%	84%	92%	82%	90%
				EFG				e									t	QST	T					
African-American/Black	19	5	13	3	19	1	1	-	6	3	5	4	12	6	4	14	12	-	6	0	4	2	8	4
	6%	4%	9%	1%	100%	6%	32%		8%	3%	6%	8%	5%	12%	13%	5%	13%		7%	1%	8%	3%	6%	9%
				DFG																				
Asian	10	5	5	2	1	10	-	-	-	8	1	2	10	-	-	10	3	2	4	2	2	2	6	-
	3%	4%	3%	1%	3%	100%				9%	1%	3%	4%			4%	4%	2%	4%	5%	3%	4%	4%	
				DE						K														
or some other	2	-	2	1	1	-	2	-	-	-	1	2	2	-	2	1	2	-	-	-	1	1	1	-
	1%		2%	*%	4%		100%				1%	3%	1%		6%	*%	2%				2%	1%	1%	
				DE																				
(DO NOT READ) Not sure/ Refused	17	12	5	-	-	-	-	9	7	4	4	2	10	1	4	13	1	1	5	10	3	1	12	1
	6%	8%	4%					40%	9%	5%	5%	4%	4%	1%	12%	5%	1%	1%	6%	35%	6%	2%	9%	1%
																				QRS			vX	

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C8. Do you most closely identify your race as (randomize): [White, African-American, Asian], or some other? (Allow multiple.)

	=====EDUCATION=====				==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==			
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftrn Some	Lttl Nevtr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
White	255	60	74	68	51	75	175	34	75	143	67	187	68	109	53	107	146	99	101	50	39	97	115
	86%	78%	90%	90%	85%	89%	85%	76%	80%	91%	77%	90%	88%	86%	85%	88%	84%	80%	88%	91%	79%	85%	89%
										hI		K								r			
African-American/Black	19	8	7	3	1	4	13	7	7	5	6	13	5	5	6	6	13	8	7	4	7	8	3
	6%	11%	8%	3%	2%	5%	6%	15%	8%	3%	7%	6%	6%	4%	10%	5%	7%	7%	6%	6%	14%	7%	3%
																					w		
Asian	10	2	2	3	3	1	10	4	-	6	5	6	2	5	3	5	5	7	2	2	3	1	6
	3%	2%	3%	4%	5%	1%	5%	9%		4%	5%	3%	2%	4%	5%	4%	3%	6%	1%	3%	6%	1%	5%
							F											s			v		v
or some other	2	2	-	1	-	-	2	1	-	1	2	1	1	1	1	2	1	1	2	-	1	1	1
	1%	2%		1%			1%	2%		1%	2%	*	1%	*	1%	1%	*	1%	1%		2%	1%	*
(DO NOT READ) Not sure/ Refused	17	9	2	2	5	6	11	1	12	5	8	8	4	9	-	3	14	13	4	-	2	11	4
	6%	12%	2%	2%	8%	7%	5%	1%	13%	3%	10%	4%	5%	7%		3%	8%	11%	4%		3%	10%	3%
		CD							HJ		L						p	S				uw	

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C9. DO NOT ASK RECORD BY VOICE OBSERVATION Gender

	=GENDER=			=====RACE/ETHNICITY=====					=====AGE=====				====HOME====		====AG====			=====PARTY ID=====				=ENVIRONMENTALISM=			
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45	
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46	
Male	148	148	-	129	5	5	-	17	58	37	35	19	107	32	12	136	45	46	36	22	21	28	72	26	
	50%	100%		51%	29%	53%		77%	71%	43%	45%	37%	46%	62%	38%	51%	47%	54%	41%	74%	45%	47%	50%	58%	
				e				e	JKL											qS					
Female	149	-	149	125	13	5	2	5	24	49	43	32	125	20	19	129	50	40	51	8	26	32	72	19	
	50%		100%	49%	71%	47%	100%	23%	29%	57%	55%	63%	54%	38%	62%	49%	53%	46%	59%	26%	55%	53%	50%	42%	
				dh				DEFH		I	I	I					t		T						

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 C9. DO NOT ASK RECORD BY VOICE OBSERVATION Gender

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/ Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Male	148	53	38	26	32	35	110	16	45	84	35	113	47	68	23	69	78	59	52	35	15	59	72
	50%	68%	46%	34%	53%	42%	53%	36%	49%	54%	40%	54%	61%	54%	37%	57%	45%	47%	45%	63%	30%	51%	55%
		CD			D				h		k		O	o					s		U	U	
Female	149	25	44	50	28	49	97	29	48	72	52	97	30	59	39	52	96	65	62	20	35	56	58
	50%	32%	54%	66%	47%	58%	47%	64%	51%	46%	60%	46%	39%	46%	63%	43%	55%	53%	55%	37%	70%	49%	45%
			B	BE				j			l				Mn				t		VW		

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 S3. Just to confirm, in what Pennsylvania county do you live?

	=GENDER=			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG===			=====PARTY ID=====				=ENVIRONMENTALISM=			
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45	
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46	
Chester	271	136	136	233	18	10	2	20	75	81	70	45	215	46	26	245	87	80	78	26	44	58	128	41	
	91%	91%	91%	91%	98%	100%	100%	92%	92%	94%	89%	89%	92%	89%	82%	92%	92%	94%	90%	88%	93%	95%	89%	90%	
					D	D																			
Delaware	21	10	10	19	0	-	-	-	7	2	6	6	13	5	3	18	8	5	6	2	3	3	10	4	
	7%	7%	7%	7%	2%				8%	2%	8%	11%	6%	10%	9%	7%	8%	5%	7%	6%	7%	5%	7%	10%	
											j	j													
Lancaster	5	2	3	3	-	-	-	2	-	3	2	-	4	1	3	2	-	1	3	2	-	-	5	-	
	2%	2%	2%	1%				8%		3%	3%		2%	2%	9%	1%		1%	3%	6%			4%		

Comparison Groups: BC/DEFGH/IJKL/MN/OP/QRST/UVWX
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 S3. Just to confirm, in what Pennsylvania county do you live?

	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
Chester	271	69	74	70	56	79	187	43	83	143	84	186	71	119	55	112	158	113	103	51	47	100	120
	91%	89%	90%	92%	94%	94%	90%	96%	89%	91%	97%	89%	92%	94%	88%	92%	90%	91%	90%	93%	96%	88%	93%
											L												
Delaware	21	6	6	4	4	3	17	1	7	13	2	19	4	5	8	7	13	8	9	4	2	11	8
	7%	8%	7%	6%	6%	3%	8%	2%	7%	8%	2%	9%	6%	4%	12%	6%	8%	7%	7%	7%	4%	9%	6%
												K											
Lancaster	5	2	2	1	-	2	3	1	4	1	1	4	2	1	-	2	3	3	2	-	-	3	2
	2%	2%	2%	2%		2%	2%	1%	4%	1%	1%	2%	2%	1%		2%	2%	2%	2%			3%	1%

Comparison Groups: BCDE/FG/HIJ/KL/MNO/PQ/RST/UVW
 Independent T-Test for Means (equal variances), Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

The Nature Conservancy & University of Delaware, Water Resources Agency - SE Pennsylvania Brandywine-Christina Watershed Survey - May 2016 - OpinionWorks LLC
 S4. What is your 5-digit zip code at home? DO NOT READ LIST

	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG===			=====PARTY ID=====				=ENVIRONMENTALISM==			
	ALL	Male	Female	White	Afr-	As-	Hisp	Othr	<35	35-49	50-64	65+	Own	Rent	Yes	No	Dem	Rep	Othr	Ind/ Not	High	Avg	Low		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	
	297	148	149	255	19	10	2	22	82	86	79	51	232	52	32	265	95	85	87	30	48	61	144	45	
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
UNWEIGHTED TOTAL	300	140	160	259	26	7	3	5	33	82	138	46	256	40	26	273	94	93	88	25	54	61	139	46	
19311 - Avondale, PA	11	7	4	9	-	-	-	2	7	1	2	1	8	2	2	9	5	-	2	3	-	1	9	1	
	4%	4%	3%	3%				8%	8%	1%	2%	2%	4%	4%	6%	3%	6%		3%	10%		2%	6%	3%	
19317 - Chadds Ford, PA	4	1	3	4	-	-	-	-	-	1	2	1	4	1	-	4	1	2	2	-	2	1	2	-	
	1%	1%	2%	2%						1%	3%	2%	2%	1%		2%	1%	2%	2%		4%	2%	1%		
19320 - Coatesville, PA	52	30	22	36	8	1	1	7	24	10	10	7	37	7	4	48	15	10	15	12	8	6	29	8	
	17%	20%	15%	14%	45%	6%	45%	32%	29%	12%	13%	14%	16%	13%	11%	18%	16%	11%	17%	39%	17%	11%	20%	17%	
					DF				jk											qRs					
19330 - Cochranville, PA	10	3	7	10	-	-	-	-	7	1	1	1	7	-	3	6	2	5	2	-	-	-	6	3	
	3%	2%	4%	4%					9%	1%	1%	2%	3%		10%	2%	2%	6%	3%				4%	7%	
19335 - Downingtown, PA	49	32	18	45	1	5	-	7	9	21	13	6	37	12	2	47	11	20	14	5	9	18	16	7	
	17%	21%	12%	18%	6%	45%		32%	11%	25%	16%	11%	16%	24%	8%	18%	11%	23%	16%	18%	19%	29%	11%	15%	
		c		e		E			IL									q				W			
19341 - Exton, PA	12	1	12	9	2	2	-	-	4	3	3	2	7	6	-	12	5	4	3	-	-	2	9	1	
	4%	*%	8%	3%	11%	16%			5%	3%	4%	5%	3%	11%		5%	5%	5%	3%			4%	7%	1%	
			B																						
19342 - Glen Mills, PA	13	6	7	11	0	-	-	-	2	2	5	4	10	1	1	12	4	2	5	2	4	1	3	4	
	4%	4%	5%	4%	2%				3%	2%	6%	9%	4%	1%	3%	5%	4%	3%	6%	6%	9%	2%	2%	10%	
19343 - Glenmoore, PA	10	5	5	9	-	-	-	-	2	4	3	1	8	2	1	8	3	2	4	1	-	2	6	2	
	3%	4%	3%	4%					3%	5%	4%	2%	3%	4%	5%	3%	4%	2%	5%	2%		3%	4%	5%	
19344 - Honey Brook, PA	3	1	2	3	-	-	-	-	-	1	1	1	3	-	-	3	1	-	2	-	-	1	1	1	
	1%	*%	1%	1%						1%	1%	2%	1%			1%	1%		2%			2%	*%	3%	
19348 - Kennett Square, PA	13	3	9	13	-	-	-	-	-	3	6	3	12	1	1	12	2	8	3	-	3	4	6	-	
	4%	2%	6%	5%						4%	8%	7%	5%	2%	4%	4%	2%	9%	3%		6%	6%	4%		
19350 - Landenberg, PA	10	4	6	10	-	-	-	-	-	3	5	2	10	-	-	10	3	6	1	-	2	2	4	1	
	3%	3%	4%	4%						3%	6%	5%	4%			4%	3%	7%	1%		5%	3%	3%	3%	
19365 - Parkesburg, PA	9	5	3	8	1	-	-	-	2	3	3	1	8	1	1	8	4	4	-	1	-	1	6	1	
	3%	4%	2%	3%	6%				3%	3%	3%	2%	3%	2%	2%	3%	4%	5%		3%		2%	4%	2%	

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	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG===				=====PARTY ID=====				=ENVIRONMENTALISM==			
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)		
19380 - West Chester, PA	35 12%	14 10%	21 14%	32 12%	1 7%	2 16%	-	-	7 9%	10 12%	12 15%	7 13%	28 12%	8 14%	5 15%	31 12%	13 13%	13 15%	9 10%	1 3%	6 12%	12 19%	16 11%	3 6%		
																								x		
19382 - West Chester, PA	44 15%	28 19%	17 11%	38 15%	4 23%	2 17%	1 55%	-	13 16%	10 12%	10 13%	11 22%	38 16%	6 12%	4 12%	40 15%	19 20%	7 8%	13 15%	5 18%	13 27%	7 12%	17 12%	7 16%		
																								vW		
19390 - West Grove, PA	3 1%	1 1%	2 1%	2 1%	-	-	-	-	-	2 2%	1 1%	-	3 1%	-	-	3 1%	-	2 2%	2 2%	-	1 2%	1 1%	1 *	1 2%		
19425 - Chester Springs, PA	10 3%	3 2%	7 5%	9 3%	-	-	-	-	2 3%	4 5%	2 3%	1 2%	6 3%	4 7%	2 8%	7 3%	2 2%	1 1%	6 7%	1 2%	-	2 4%	6 4%	1 2%		
19520 - Elverson, PA	9 3%	5 3%	4 3%	9 4%	-	-	-	6 28%	2 3%	7 8%	-	-	7 3%	2 4%	5 17%	4 1%	3 3%	1 1%	5 6%	-	-	-	6 4%	3 7%		
															P									R		

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	=====EDUCATION=====					==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==		
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	297	78	82	76	60	84	207	45	93	157	87	209	78	126	62	121	174	124	114	55	49	114	130
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	300	65	83	87	64	96	197	46	90	163	85	214	78	122	68	116	182	129	115	53	56	120	121
19311 - Avondale, PA	11	4	3	1	2	4	7	2	4	4	2	9	2	3	3	4	6	3	2	6	1	3	6
	4%	5%	4%	1%	4%	5%	3%	5%	4%	3%	2%	4%	3%	3%	5%	4%	4%	2%	2%	10%	2%	3%	5%
																					RS		
19317 - Chadds Ford, PA	4	-	1	1	3	3	1	-	2	2	2	3	1	2	2	2	3	1	-	1	2	2	
	1%		1%	1%	5%	3%	*		2%	1%	2%	1%	1%	1%	4%	1%	1%	3%	1%		1%	2%	2%
19320 - Coatesville, PA	52	26	8	10	7	16	34	12	21	16	18	34	8	33	6	24	28	29	14	6	12	19	21
	17%	34%	10%	14%	11%	19%	16%	27%	23%	10%	21%	16%	10%	26%	10%	20%	16%	23%	13%	12%	24%	17%	16%
		CDE						J	J					MO			st						
19330 - Cochranville, PA	10	1	7	1	1	3	6	1	2	7	-	10	4	2	2	2	8	3	2	3	2	3	4
	3%	1%	9%	1%	2%	4%	3%	1%	2%	4%		5%	5%	2%	4%	1%	5%	3%	2%	5%	5%	3%	3%
			BDE														p						
19335 - Downingtown, PA	49	15	11	12	11	11	37	7	9	34	16	33	10	32	5	28	22	21	21	8	4	15	30
	17%	19%	14%	16%	19%	13%	18%	15%	9%	22%	19%	16%	12%	25%	9%	23%	12%	17%	18%	14%	8%	14%	23%
										I				mO		q							U
19341 - Exton, PA	12	-	5	5	3	-	12	2	7	3	4	8	1	8	3	6	7	5	5	3	2	6	4
	4%		6%	6%	5%		6%	5%	7%	2%	5%	4%	1%	6%	4%	5%	4%	4%	4%	5%	5%	5%	3%
19342 - Glen Mills, PA	13	4	2	4	3	4	9	1	6	7	1	11	-	4	7	2	11	7	5	2	2	5	7
	4%	5%	3%	5%	5%	5%	5%	2%	6%	4%	1%	5%		3%	12%	2%	6%	6%	4%	3%	3%	4%	5%
19343 - Glenmoore, PA	10	4	1	3	2	6	4	-	4	7	4	6	4	2	1	3	7	3	4	3	1	5	5
	3%	5%	2%	3%	4%	8%	2%		4%	4%	4%	3%	5%	2%	1%	3%	4%	3%	3%	6%	1%	4%	4%
						g																	
19344 - Honey Brook, PA	3	2	-	1	-	2	1	1	-	2	2	1	1	1	1	1	2	2	1	-	1	1	1
	1%	3%		1%		2%	1%	2%		1%	2%	*	1%	*	2%	1%	1%	1%			2%	*	1%
19348 - Kennett Square, PA	13	3	3	5	2	4	8	3	3	6	7	6	2	8	2	1	12	8	3	2	5	3	4
	4%	4%	3%	6%	4%	5%	4%	7%	4%	4%	8%	3%	3%	6%	3%	1%	7%	6%	3%	3%	10%	3%	3%
																	p						
19350 - Landenberg, PA	10	-	2	4	2	8	2	1	3	5	2	8	3	4	2	3	7	5	4	-	1	3	6
	3%		2%	6%	4%	9%	1%	3%	4%	3%	2%	4%	4%	3%	4%	4%	4%	4%	4%		2%	2%	5%
						G																	

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	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nev	High	Midl	Low	Lot/ Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
19365 - Parkesburg, PA	9 3%	3 3%	4 5%	1 2%	1 1%	2 3%	6 3%	2 4%	1 1%	6 4%	0 *	8 4%	5 6%	2 1%	2 3%	2 2%	6 4%	4 3%	4 3%	1 2%	2 4%	1 1%	6 5%
19380 - West Chester, PA	35 12%	4 5%	15 18%	8 10%	9 15%	3 3%	32 15%	4 9%	12 13%	20 12%	9 10%	27 13%	14 18%	10 8%	6 9%	10 8%	25 15%	11 9%	19 17%	6 11%	6 12%	16 14%	14 11%
			b				F																
19382 - West Chester, PA	44 15%	9 12%	11 13%	12 16%	12 20%	12 14%	33 16%	9 19%	13 14%	23 15%	14 16%	30 14%	13 17%	9 7%	15 25%	24 19%	21 12%	16 13%	18 15%	9 17%	6 12%	21 18%	14 11%
														N									
19390 - West Grove, PA	3 1%	-	2 3%	-	1 2%	-	3 1%	-	2 2%	2 1%	1 1%	3 2%	2 2%	1 *	1 2%	2 1%	2 1%	3 3%	-	-	-	3 3%	-
19425 - Chester Springs, PA	10 3%	1 1%	3 3%	6 8%	1 1%	3 3%	7 3%	-	3 3%	7 5%	3 3%	7 3%	6 8%	2 2%	-	6 5%	4 2%	1 1%	6 5%	3 5%	2 3%	7 6%	2 1%
				bE															r				
19520 - Elverson, PA	9 3%	2 3%	4 5%	3 4%	-	4 5%	5 3%	-	3 3%	6 4%	3 4%	6 3%	2 3%	4 3%	3 5%	3 3%	6 4%	-	5 5%	4 7%	3 6%	2 2%	4 3%
																					v		

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	=GENDER==			=====RACE/ETHNICITY=====					=====AGE=====				===HOME===		===AG=====			=====PARTY ID=====				=ENVIRONMENTALISM==		
	ALL	Male	Female	White	Afr- Amer	As- ian	Othr	Hisp anic	<35	35- 49	50- 64	65+	Own	Rent	Yes	No	Dem	Rep	Ind/ Othr	Not Reg	High 5	Avg 4	Low 3	1-2
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)
	180	106	75	149	14	5	2	22	63	45	41	31	131	37	32	148	56	53	52	19	30	31	87	32
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	167	91	76	138	20	4	2	5	25	41	72	29	139	24	26	140	54	52	48	13	33	30	75	29
Definitely (You will be prompted to onfirm name, email, phon	24 13%	16 15%	8 10%	20 13%	3 19%	-	1 59%	-	11 17%	2 4%	8 20%	3 10%	15 11%	9 24%	3 11%	20 13%	9 17%	6 12%	6 12%	2 11%	6 21%	6 18%	9 11%	2 7%
Probably (You will be prompted to onfirm name, email, phone	26 14%	8 8%	18 24%	21 14%	5 36%	-	1 41%	-	8 13%	5 11%	8 20%	5 16%	23 18%	3 8%	8 24%	18 12%	10 18%	5 9%	11 21%	1 3%	5 17%	7 22%	9 11%	5 16%
About 50/50	39 22%	23 22%	16 22%	27 18%	1 5%	3 60%	-	10 46%	12 18%	18 39%	7 16%	3 11%	26 20%	6 15%	5 16%	34 23%	4 7%	12 23%	14 27%	9 46%	7 22%	4 13%	27 31%	1 4%
Not that interested	87 48%	55 52%	33 44%	78 52%	5 36%	2 40%	-	9 40%	33 53%	18 39%	17 42%	20 63%	64 49%	19 52%	15 48%	72 49%	29 52%	29 55%	21 41%	8 39%	12 40%	15 47%	41 47%	20 62%
(DO NOT READ) Not sure/ Refused	4 2%	4 3%	0 1%	4 2%	0 3%	-	-	3 13%	-	3 7%	1 2%	-	3 3%	1 2%	-	4 3%	3 6%	1 1%	-	-	-	-	0 *	4 11%

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	=====EDUCATION=====				==WATER==		DRINKING WATER CONCERN			=FLOODING		CONFIDENCE IN LOCAL SEAFOOD			IN WATER=		WATER PRIORITY			==OWN IMPACT==			
	ALL	HSor Less	Some Coll	4-yr Dgre	Grad Work	Well	Muni cple	Very	Lttl	Not	Prob lem	Not Prob	Very	Some	Not	Oftn Some	Lttl Nevrr	High	Midl	Low	Lot/Some	Lttl	None
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)
	180	56	49	43	32	51	126	28	56	94	51	129	53	85	32	79	100	71	71	35	27	65	87
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNWEIGHTED TOTAL	167	41	45	45	35	55	109	27	50	89	44	122	48	75	33	69	96	70	64	31	29	65	72
Definitely (You will be prompted to onfirm name, email, phon	24	8	5	6	6	6	17	8	9	6	5	19	6	9	7	12	12	12	7	2	5	6	11
	13%	14%	10%	13%	18%	12%	14%	30%	16%	7%	9%	15%	11%	10%	22%	15%	12%	17%	10%	6%	18%	9%	12%
								J															
Probably (You will be prompted to onfirm name, email, phone	26	8	6	10	2	9	17	2	13	11	10	16	11	10	3	13	11	12	12	3	5	13	9
	14%	14%	12%	23%	8%	17%	14%	7%	23%	12%	20%	12%	20%	12%	11%	17%	11%	16%	16%	8%	18%	19%	10%
				e																			
About 50/50	39	12	7	14	6	10	29	7	18	15	18	20	3	24	9	16	23	16	18	5	5	20	15
	22%	21%	15%	32%	20%	19%	23%	24%	31%	16%	35%	16%	6%	29%	28%	21%	23%	23%	25%	14%	19%	30%	17%
											L			M	M								
Not that interested	87	28	27	14	17	26	60	11	16	58	18	69	32	38	12	36	51	31	34	21	9	26	52
	48%	50%	56%	32%	54%	52%	47%	38%	29%	62%	35%	54%	61%	45%	38%	46%	51%	43%	48%	61%	32%	41%	60%
			D		d					hI			o										Uv
(DO NOT READ) Not sure/Refused	4	1	3	-	-	1	3	-	1	3	-	4	1	3	0	1	3	-	0	4	4	-	0
	2%	1%	7%			1%	3%		1%	4%		3%	1%	3%	1%	1%	3%		1%	10%	13%		*%
																				s	W		

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3

Focus Group Supporting Material

Brandywine/Christina Watershed, May 12, 2016; 1 residential, 1 agricultural segment

Name: _____

Phone: _____

Segment (Circle)	Segment
A	Suburban
B	Agricultural

(Inbound, responding to an ad): Hello, my name is _____ with OpinionWorks, an opinion research firm based in Annapolis, Maryland. Thank you for your interest in our focus group. At the end of this call if you qualify and are interested, you will be invited to participate in a focus group for which you would be paid \$80. This is not an effort to sell you anything, but rather to hear your opinions only.

I just need to confirm some information so we are sure to have a good cross-section of participants.

(Outbound calling): Hello! This is _____ with OpinionWorks, an opinion research firm based in Annapolis, Maryland, calling with a brief survey. We are not selling anything. At the end of this call if you qualify and are interested, you will be invited to participate in a focus group for which you would be paid \$80. This is not an effort to sell you anything, but rather to hear your opinions only.

DNQ=Does not qualify: "I'm sorry, we've already filled our quota in that category. Thanks for your time."

1. First, do you or anyone in your immediate family... *(Read each, if yes to any thank and terminate.)*

- Hold an elected office 1 *Thank and terminate.*
- Work as a professional communicator or marketer, such as in communications, advertising, or PR..... 2 *Thank and terminate.*
- Work professionally or actively volunteer in natural resource protection or water quality 3 *Thank and terminate.*

2. What is the name of the city or town, state, and zip code where you live? (Confirm segment.)

City/Town _____ State _____ Zip code _____

3. Are you involved at all in the community, such as holding an elective office, serving on a local commission, volunteering for a non-profit organization, attending community meetings, or something else like that? (If yes, determine what the position is.)

- Yes _____ 1 Continue.
- No/Not sure..... 2 Continue.

4. Do you or someone in your household own or manage farmland in Pennsylvania? (If yes): In what county or counties?

- Yes _____ 1 Segment B
- No 2 Segment A

5. Over the past year or two, have you done any of these things frequently, occasionally, rarely or never? (At least one inside box to qualify.)

	Frequently	Occasionally	Less/NS
Voted in an election			
Read a daily newspaper or news site, either in print or online			
Hunted, fished, or camped			
Biked, walked, swam, or run for exercise			

Brandywine/Christina Watershed, May 12, 2016; 1 residential, 1 agricultural segment

6. On a scale of 1 to 5, where 5 means you consider yourself to be a strong environmentalist, 3 is average, and 1 is not an environmentalist at all, where would you put yourself? Use any number from 1 to 5. (Must score inside the box.)

Not enviro at all 1	2	Average 3	4	Strong Enviro 5	NS/Refused 6
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7. Why did you give that response? (Probe and listen for sociability. Also listen for views that are too strongly pro- or anti-environmental protection for group cohesion. Record summary of comments below.)

Classification

8. So that I am sure we have a good age distribution, what is your age? (*Read categories.*)

1 18 to 24 2 25 to 34 3 35 to 44 4 45 to 54 5 55 to 64
 6 65 to 79 7 80 or older (Thank and terminate.)

9. What is the last grade or level of school that you completed? (Do not read categories.)

Less than 12th Grade 1
 High School Diploma/GED 2
 Attended Some college/Associate's Degree/Trade School..... 3
 Bachelor's/4-year College Degree..... 4
 Post-Graduate Work 5

10. Do you have children living at home, grown children, or no children?

1 Children at home 2 Grown children 3 No children 4 (Do not read): Prefer not to say

11. Do you own or rent your home? (At least 6 homeowners each group.)

1 Own 2 Rent 3 Not sure 4 (Do not read): Prefer not to say

12. Do you most closely identify your race or ethnicity as: [African-American, White, Hispanic, Asian], or some other? (*Allow multiple.*)

1 African-American/Black 2 White 3 Hispanic 4 Asian 5 Other (*Specify.*)

Brandywine/Christina Watershed, May 12, 2016; 1 residential, 1 agricultural segment

Invitation

The purpose of this call is to form a one-time small group discussion, sometimes called a focus group. We are not selling anything. The purpose of this discussion is to hear your thoughts and ideas only. There will be 6 to 8 other people there, and a moderator who will introduce questions and topics.

C1. This will be a friendly discussion and will take about 2 hours. You will receive refreshments and \$80 as soon as the group is over as a thank you for your help. It will take place on May 12 at {time}. Would you like to be included in this group?

- 1 Yes
 - 2 Maybe/Depends
 - 3 No (Thank and terminate.)
- (If maybe/depends, answer questions to clarify or address concerns; continue as appropriate.)

(If yes):

C2. Your discussion group includes only 6 to 8 people and your participation is very important. Can we count on your participation on Thursday, May 12?

- Definitely 1
- Probably..... 2
- About 50/50/Not sure..... 3 Place on callback list.
- Probably not..... 4 Thank and terminate.**
- Definitely not..... 5 Thank and terminate.**

(If definitely/probably):

C3. Once we have the location finalized, we will send you a written confirmation with the details of the location and time. Would you prefer that by...?

- 1 email
- 2 Standard US mail
- 3 Text message

Email address (confirm carefully): _____

(If text): Mobile number _____

If we need to call you between now and the group, what is the best phone number?

C4. Let me confirm your name, please. (Spell carefully.) _____

Thank you very much. You should expect a written confirmation in the next few days. (Also let them know they can call our office (410-280-2000) in case they have any other questions.)

Recruiter Name _____

Date _____

Brandywine/Christina Watershed, May 12, 2016; 1 residential, 1 agricultural segment

MISSION:
UNDERSTAND HOW THE PUBLIC THINKS ABOUT WATER QUALITY TO HELP DEVELOP A
MARKETING AND COMMUNICATION PLAN TO PROMOTE A HEALTHY WATER FUND.

A. Introductions (:15)

1. Moderator introduction and ground rules
2. Respondents introduce selves/icebreaker

B. Impressions of Water (:20; 5:15, 7:15)

1. Let's go around the table. What sort of things do you like to do outdoors?
2. Do you spend any time on or near the water here in southeast Pennsylvania? What do you like to do?
3. I want you to close your eyes and picture the stream, creek, pond, or other body of water that is closest to where you live. It may be a stream too small to have a name, or large river. Now open your eyes. Describe it to me. (Go around the table. Elicit sights, sounds, feelings of connection to this water.)
4. Think again about this water you have described. Give it a grade on an A to F scale, where A is clean, pure, and healthy and F is extremely polluted. Why did you give it that grade?
5. Now think more broadly about all the creeks, streams, and ponds around here. How would you grade them?
6. So if I said there is water pollution in nearby creeks, rivers and ponds, would you agree?
 - How strongly do you feel about that?
7. If you were to look back to when you were a kid, are the waters around here cleaner or more polluted than they were then?

C. Who is Responsible? (:20; 5:35, 7:35)

1. Why is the water polluted? Who is to blame for making it dirty and polluted? (Unaided brainstorm)
2. How much do you personally cause water pollution in your daily life? (Explore.)
3. Let's talk about some of those players and see how responsible they are for polluted water around here. (Explore level of blame and specific ways they are contributing to water pollution.)
 - a. Big industry
 - b. Water treatment plants
 - c. Agriculture (Determine if there is a distinction among types of farms.)
 - d. Septic systems
 - e. Overdevelopment
 - f. Government (Explore different levels of government.)
 - g. Who else?
4. What would it take to clean up the waters? Can the water even be cleaned up?
 - What role should the government play in that clean-up?
 - Do the different levels of government play different roles?
 - What role should non-profit groups play?
 - Can you name a local group that is working to protect the waters?
 - What role should private companies or industry play?

Brandywine/Christina Watershed, May 12, 2016; 1 residential, 1 agricultural segment

- What role should private citizens like you play in that clean-up?
 - If you wanted to volunteer to help, would you know how to do that?
 - If you knew what to do in your daily life to help prevent water pollution, would you want to do that? Do you feel like you know what to do?
- What role should the polluters we just discussed play? (Consider them individually.)

D. Drinking Water (:10)

1. What is the source of your drinking water at home? (Well vs. municipal water)
2. (For municipal water people): Where does that water originate? (Do you know?)
3. Do you ever think about the quality of the water that comes out of your tap?
 - How concerned are you about it?
 - Have you ever had it tested? Why did you do that? What did you find?
4. How many of you typically drink water straight out of the tap, drink it filtered, drink bottled water at home? (Get a count and reasons why.)
5. Do your concerns about drinking water relate to the topic of water pollution in any way?

E. Healthy Water Fund (:15; 6:05, 8:05)

1. Would it be worth it to you to pay money out of your own pocket to see the waters around here cleaned up?
 - How would you feel if some money was committed to this purpose out of your township or municipality's budget? (Pause, if necessary): What if your local taxes went up slightly? Is this an important enough priority for that?
 - Those of you with public or municipal drinking water, how would you feel if some money was committed to this purpose out of your water bill? (Pause, if necessary): What if your water bill went up slightly?
2. How much would you be willing to pay through any of those means on a monthly or an annual basis?
3. Would you have confidence that such a fund would help with the problem of water pollution?
 - What would make you more confident?
 - Who would you have the most confidence in to administer such a fund?
 - What sort of information would you need to help you feel more confident?
4. (Offer basic description of a proposed Healthy Water Fund. Read paragraphs below aloud):

A watershed is an area of land where all surface water – rain, melting snow and ice – collects in streams and rivers before ultimately joining an ocean. The Christina, Red Clay, White Clay and Brandywine Creeks collectively form the Brandywine-Christina watershed.
(Pause here to confirm understanding before proceeding.)

The Brandywine-Christina Healthy Water Fund is a proposed funding strategy to address pollution in the Brandywine-Christina watershed. Water funds may be new to this area, but the concept is not new. Funds have been implemented successfully elsewhere in the United States and other countries. At its most basic level, a water fund enables people downstream, such as residents, farms, whole communities, to invest in upstream conservation measures designed to restore and protect freshwater resources – both the quality and quantity –far into the future.
(Pause here to confirm understanding before proceeding.)

Brandywine/Christina Watershed, May 12, 2016; 1 residential, 1 agricultural segment

F. Testing Purposes/Messages (:25)

1. Just based on what you know right now, please tell me how much you support or oppose such a fund.
2. This fund could have more than one purpose. I'd like you to rate each one of the following item in terms of how that purpose makes you feel about the fund.
 - A. Upgrade waste water treatment plants
 - B. Protect and improve our drinking water
 - C. Remove toxic chemicals from local streams, creeks, rivers, and ponds
 - D. Provide funding to help the local agricultural industry address water pollution problems
 - E. Reduce erosion and flooding
 - F. Protect and restore wetlands and forests to help absorb stormwater
 - G. Plant trees and greenery in our cities and towns
 - H. Provide funding to help townships and municipalities address water pollution problems
 - I. Projects paid for by the fund will create good-paying jobs in the local area in industries like engineering, construction, and landscaping.
 - J. The fund will plant trees in neighborhoods and create beautiful new rain gardens and green spaces that local communities can enjoy.
 - K. Environmental advocates and experts say this fund is needed to make our waters healthy again.
 - L. This fund would clean up contaminants like motor oil, chemical fertilizers and weed killers, and heavy metals from industrial smokestacks.
 - M. This fund would help keep bacteria and viruses from sewage and dog waste out of the water, making them safer for swimming
 - N. Fish are made less safe to eat by the contaminants that flow into our local waters. This fund would help protect the seafood we love to eat.
 - O. Businesses, renters – everyone in the community will pay into the fund, not just homeowners like me. We all have the responsibility to pay our fair share to help make our waters clean and healthy.
3. What else would you want to know about this fund to feel better about it?
4. If part of the purpose of this fund was to help educate people like you and your neighbors about the causes of water pollution locally, the sources of your drinking water, and things you could do to help protect local waters, would that educational role be a plus or a minus in your eyes?
5. If you knew that a key purpose of this fund would be to work beyond municipal boundaries, to solve problems more regionally outside those political boundaries, would that be an advantage or a disadvantage?
 - Would you worry at all about a loss of political control or accountability for your local township?
6. Now that we have discussed it thoroughly, how do you feel about this clean water fund now?
7. Who has changed their opinion of the Healthy Water Fund since the beginning of the group? What specifically did you hear that caused you to change your view? (Go around table.)
8. Of all the purposes and ideas we have discussed, what do you remember most? In other words, what stands out for you as having the most impact on you?

Brandywine/Christina Watershed, May 12, 2016; 1 residential, 1 agricultural segment

G. Word Testing (:15 or as time allows; 6:45, 8:45)

1. I would like to get your impressions of each set of words. What do these words mean to you? What associations does it bring to mind? (First, understand each term. Then compare their impact.)
 - Polluted vs. Toxic vs. Contaminated vs. Impaired
 - Fund vs. Fee vs. Tax
 - Water quality vs. Clean water vs. Healthy water
 - Watershed vs. Basin
 - Stormwater vs. Runoff
 - Non-point source pollution
 - Nutrients vs. Excess fertilizer

Final thoughts?

4

Focus Group Transcripts

Group A – Suburban; May 12, 2016.

[Introduction/ housekeeping]

Moderator: Outdoors. What kind of things do you like to do outdoors?

Respondent: I fly fish.

M: Keep going.

R: I like to cycle.

R: Hiking. Walking. Parks.

R: Ride bikes.

R: Some people ride horses.

M: What do you like to do outdoors in local waters, if anything?

R: I'll go to the shore. It won't be local, I'll go to the shore myself.

M: Where do you go to the shore?

R: Ocean City in South Jersey.

M: You fly fish. Where do you fly fish?

R: [inaudible]. [inaudible] followed me.

M: Anybody else recreate in the water?

R: Fish. Hunt.

M: Where do you fish and hunt?

R: Right down the Chesapeake.

M: So you fish in the Chesapeake Bay?

R: Correct.

M: Okay. Where do you hunt?

R: There a lot. Delaware beaches, Delaware shores.

M: What do you hunt on the Delaware shores?

R: Ducks.

M: Oh, okay. There's a lot of tourists there. If any, you pick up the traffic there.

R: I'm not on the traditional beaches per se, but off Route 9.

M: Okay.

R: I bet you know where that is.

M: Any water recreation?

R: I canoe and kayak.

M: Where?

R: Down around the Brandywine. In lakes.

M: Lakes around here?

R: No, northern Pennsylvania.

M: Christine, what about you?

R: I hang out with any friends or family or neighbors that are going anywhere. Sometimes the kids go fishing and I'll go with the adults and hang out. Just a bunch of little local watersheds, not anything really that I even remember the name of.

M: Two or three miles from your house or 102?

R: 2 or 3 miles. Yeah. Everything's pretty close. Chester County.

M: Okay. Think of your childhood and where you might have gone that's water and recreation related. See if you can remember what you saw. See if you can remember the sounds. See if you can remember who you're with. See if you can remember even how you felt. So take it away, Christine. Childhood, water, paint the picture.

R: All through the years, a lot of time, I'm like different places in the Poconos, there's the falls there, all that kind of thing. Hiking back there also, in addition to just standing in ankle deep water or whatever. It's peaceful. It's nice to hear the birds, and like I said, I'm usually with friends or family, or usually talking about whatever or just being quiet and enjoying each other's company, whatever.

M: Have you ever had that experience locally?

Group A – Suburban; May 12, 2016.

- R:** Yeah, because I'm going with the neighbors and friends and stuff locally, so yeah. It just seems a lot different up there also because it is a more tourist area. There are more people that you'll come across, whereas a lot of times at the watersheds, I don't know if it's just our timing. We don't run into maybe four or five other people, but not 60 other people or –
- M:** Fill in the blank: I feel so da-da-da-da, when I do what I want in the water.
- R:** I don't know what to say. I'm a Pisces. I'm a water sign, so that's supposed to be my element. I don't know. [crosstalk] I don't know what to say.
- M:** So tell me more about childhood, water, recreation, sight, sounds, feeling [inaudible].
- R:** Growing up, my parents had a boat, and we would be on the Susquehanna every weekend, water skiing, knee boarding, very active. So a lot of great memories and very enjoyable to spend time with family in the water.
- M:** What does it feel like for you when you're spending time in the water? "I feel so da-da-da-da when I'm spending time on the water."
- R:** Happy, peaceful. I'm excited because I like sports.
- M:** Then have you had that same experience locally?
- R:** Not really.
- M:** Because?
- R:** We don't have a boat and [crosstalk] –
- M:** It's hard to do it on the ground.
- R:** – and if I did, I don't know where I'd put it in around here, but I'll be more drawn to motorboat activity, whereas now we've but little canoes or rented kayaks. I've done that with my kids and family, but not so much the motorboat part of it which is a little bit more exciting to me.
- M:** Somebody else might tell me about childhood, sight, sounds, vision, water ...
- R:** Sure. My father was a school teacher in Brooklyn and Manhattan. He'd have the summers free so he would go up to Maine and be a camp counselor in one of the camps that I really remember had a big lake on it. I really remember him taking me out in a rowboat and teaching me how to swim, which consisted of throwing me into the water. But I learned how to swim, so that was a good childhood memory. We still have pictures of that, of when I was a little kid. Then, for some reason when I'm in the water either in a lake or down to the beach, fond memories of being on the water come back to me from childhood.
- M:** Have you had any of those experiences locally related to the water?
- R:** Not necessarily in this immediate area, but down at the beach or Chesapeake where the different memories live from childhood.
- M:** Dennis, go.
- R:** Family down the shore. Jersey shore.
- M:** Jersey shore, okay. Give me some of the sights. Help me paint the picture. What do you see? What do you hear?
- R:** The ocean, I'd say.
- M:** Okay. Who were you with?
- R:** Family.
- M:** Okay. How long you there for?
- R:** Usually we'd go a week at a time.
- M:** What do you usually do when you're down there?
- R:** I swim in the ocean.
- M:** How do you feel when you're with your family swimming in the ocean.
- R:** Wet.
- M:** What emotional feeling? I mean [crosstalk] –
- R:** It's nice to be away. That's the main thing.
- M:** So can I extract relaxing?
- R:** Yeah, sure.
- M:** Okay. Christopher, you got a story for me?

Group A – Suburban; May 12, 2016.

- R:** Yeah. When I was growing up, we had a ... Every summer, when we weren't at the Jersey shore, we actually belonged to a gun club, so it was a big lake. We used to go there in West Chester. Then, I know we spend some time at Marsh Creek, but we didn't really get on the creek itself. We just went up there to sort of sight-see or drive or I don't even know. I know we spent some time up there too. As far as what it was like? I actually never was a lake person, I'm still not because of that. I just feel like it's ... I'm much more of an ocean person. Lakes to me are just kind of stagnant. You don't know what's really in there. The ocean, it's always moving so you're in much better shape than anything. Do you know what I mean?
- M:** I do. I can't offer any opinions, but I know what you said. [laughter] Okay. So anybody else want to tell me about childhood? Paint picture, family recreation in water, locally if you can?
- R:** Locally through Boy Scouts, canoeing. [inaudible] primarily.
- R:** Yeah. Mine was in Boy Scouts, too, now that I think about it.
- M:** Oh really?
- R:** Yeah.
- M:** Okay. Do you spend any time on the water here in southeast Pennsylvania?
- R:** Yeah, I fly fish.
- M:** You know, you mentioned on the river, and I'm not from here, sir. So I wouldn't know if it's local or not.
- R:** Oh okay. Well, creeks. Cricks or creeks, whatever you call it.
- M:** Cricks. Okay, I'm happy with either. Thinking of the water that you have described. Thinking of the water ... Take that away. Thinking of the water that is near you locally, please give it a grade. A is pristine and clean and F is bad. So thinking of the water that's near you, put group 1 on the top of this page. Here's some pens or pencils.
- R:** Can you define locally?
- M:** No, I can't. Whatever means locally to you. Because if I answer any question, I can't do my job. [inaudible] Exactly.
- R:** Group 1?
- M:** Yes sir. Group 1. So A is in perfect health and F is ...
- R:** The demand [crosstalk], Jesus Christ. I'm sorry, A is perfect?
- M:** A is in great health. A is not at all polluted, pristine, and F is horribly polluted.
- R:** And this is a body of water locally that you'd know, understand, or frequent?
- M:** Sure.
- R:** Okay.
- R:** You said, I'm sorry, A is pristine, F is polluted? The other way around? No? Okay.
- M:** No. A is pristine. Just like school. A is way better than F. So ... How many people gave them an A? None. How many people gave it a B. Oh. One, two, three, four ...
- R:** Yeah. I'd give it a B.
- M:** Well, what were you really going to give it, Paul?
- R:** I would give it a C, B, kind of a crossover.
- M:** Okay. What made you guys ... So B's pretty good. What makes it kind of tend to see ... Why isn't it not an A? What makes it not an A?
- R:** I just don't know. We just moved to Honey Brooke, and there's a lot of farms. I mean, it seems like it's pretty fresh up there, so. I mean, I know there aren't motorboats in this lake. They're all just little paddle boats, so I figured it was probably okay.
- M:** B. More explanation? B? How come not an A? How come ...
- R:** Because of the pipeline coming through Chester County. Because the cows that urinate in the creeks.
- R:** I think an A would be, in my mind ... You fly fish. I don't know if you've ever been out west fly fishing?
- R:** Yes.
- R:** Okay. So you walk onto the Flat ...
- R:** You could drink it.
- R:** Yeah. You walk onto the Flat River or the Michigan River or ...
- R:** Right. You can't do it here.

Group A – Suburban; May 12, 2016.

- R:** No. Because not a lot of people have been there. So I think that's directly proportional on how many people use that body of water whether it's an A, B, C or D. Obviously the less people use it, it's going to be an A. The more people that use it, it's going to be an F.
- M:** You guys, I want to find out from you how much conviction you have that your letter is accurate and also kind of your emotional response to it. I don't know. I'll give you a silly example. I know that the [inaudible] is an A because I just read it in the paper and I feel great about that because I love where I live, or something. Tell me how much ... You said you might not be sure.
- R:** No. I have no idea.
- M:** Paul, how certain are you?
- R:** Very certain.
- M:** Very certain?
- R:** Absolutely.
- M:** Anybody else certain about the ...
- R:** Yes.
- M:** Yeah? Okay. Then, how does it make you feel? Do you care or not?
- R:** They should do more. To clean it.
- M:** What do you mean? What makes you say that?
- R:** They don't even care anymore. They just do what they want.
- M:** Who's they?
- R:** [inaudible] comes through and they take all the resources. Have you seen the pipeline in Chester County? Where it's gone and – no?
- M:** Well, please tell me though.
- R:** Well, they dammed up the Brandywine. They use it as drinking water in other localities. They don't have reservoirs.
- M:** Is that a good thing or a bad thing?
- R:** Bad thing.
- M:** Because?
- R:** Because it takes away from the creek. You're taking the water out of it. You used to be able to fish in it. Now you can walk across it and not even get wet in some places. It's how bad it is.
- M:** So I'm going to venture that you're not pleased but I'm still really not sure. How strongly do you feel? I don't know. How pissed off are you, Dennis? I sense from you that you're disappointed but I want to hear from you.
- R:** Well, what can we do?
- M:** I don't know.
- R:** I don't know what you can do either. Are you going to stop the pipeline from coming through or townships pumping out the water or putting new homes in?
- M:** Other feelings on the amount of pollution in the waters near you, if there is any?
- R:** I had well water, so that's something that probably affects a lot of people in the neighborhoods that I'm at. People have some issues with the mineral build-up or red rings or anything like that. So usually have someone come out and test it yearly and the water softener and you have two or three other pieces of equipment to make it at least drinkable. I mean, as overall it doesn't seem like there's many harsh problems with the water like when you hear about what happened in Flint or whatever. In the name of progress, it's going to be more stuff like that that's going to be revealed over time. They're not going to stop a pipeline. They're going to be all for it even though it doesn't quite make much sense because they're not collecting taxes from it but there's still ... And then there's all that run-off and so then the [inaudible] it's just going to get worse over time, but right now I feel that it's okay. Ask me again in 25 years and it might be a totally different story.
- M:** So let's get the list going. I hope I can figure this out. Oh! Welcome. So I heard pipeline. What is responsible? I heard pipeline.
- R:** That would be the farms, too, like I said. Anything run off from that, whether it would be [inaudible] or agricultural.
- M:** Keep going.
- R:** The tubing parties that go down the Brandywine.

Group A – Suburban; May 12, 2016.

- M:** Pipeline. Tubing?
- R:** Yeah. They have inflated inner-tubes and then they float down the river. They throw their soda cans in.
- M:** Okay. What else?
- R:** They probably urinate in the water or whatever.
- M:** So people. What else?
- R:** Animals.
- M:** Animals? How do animals [inaudible]?
- R:** They urinate in the water.
- M:** Okay. What else contributes to water pollution where you are?
- R:** Industry.
- M:** Which industry, Dennis?
- R:** Oh, like Downy Town Paperworks that polluted the Brandywine for thirty years.
- R:** DuPont.
- R:** DuPont. Yep. [crosstalk]
- M:** So Downy Paper. We have DuPont.
- R:** I grew up in Pottstown and their big poisoner was Occidental Chemical. I mean now there's the Limmert [phonetic] Power Plant.
- M:** Power plant.
- R:** The power plant itself uses – how many? – 30,000 gallons a day for the cooling of the towers, so that's a whole other issue. Then that's also a few towns over.
- M:** What about water treatment plants? Do water treatment plants help or do they contribute to pollution?
- R:** I have no idea.
- R:** You'd think help. [crosstalk]
- M:** Help. No idea. Help. No idea.
- R:** I say help.
- M:** Help? No idea?
- R:** I would say help.
- R:** I think so.
- M:** You hope so. Okay. Agriculture. How much does agriculture around here contribute to the pollution around here?
- R:** I think that it would, any run-off or anything of pesticides [crosstalk].
- M:** Agriculture? This is agriculture. I heard run off? What else did I hear?
- R:** She said animals.
- M:** Yeah. So ...
- R:** Industry people, animals, companies, power plants, water treatment plants.
- M:** And? Septic systems? Do they help, hinder, do nothing?
- R:** The septic system is different than a water treatment plant? Are you saying that or it's just a different ...
- M:** They're separate on my list, therefore they are separate.
- R:** A water treatment plant would be helpful for septic tanks and septic system. I vision it as being one [crosstalk].
- R:** But not if the septic tank leaks and runs into our local stream, that's what's harmful. I would say it's harmful.
- M:** So it depends on ...
- R:** Sure. Potentially ...
- M:** Government. What government contributes or detracts from or has an effect on the pollution in the waters around here?
- R:** Probably think they just turn it back. It's all in the name of progress. They want those houses to go up. They want more [crosstalk].
- R:** Damn right because they want the taxes.
- R:** Yeah.

Group A – Suburban; May 12, 2016.

- M:** Dennis, the longer this group goes on, the angrier you get. Is that true?
- R:** I'm not angry, just upset. The township's not going to do nothing if you're going to put these houses in. They're going to get taxes. They don't care.
- M:** Does anybody else want to tell me the truth like Dennis is telling me the truth? What's really in the back of your mind? Is it hopeless? Is it even ... Can the water be cleaned or is it too late?
- R:** Sure.
- R:** [crosstalk] there have to be public health standards that I think the government would follow. I mean, they have to, they're monitoring it ...
- R:** They don't, because Flint, Michigan, people are dying. Everybody's got cancer in Flint, Michigan because of that municipal water authority screwed everybody and the city mayor knew it. They didn't do anything about it.
- R:** You can't extrapolate that to say that it's happening everywhere. [crosstalk].
- M:** Keep the conversation local please.
- R:** I think [crosstalk].
- R:** I feel like more stuff is going to come out like that.
- M:** Say that again, Christine.
- R:** That over time other stories like that are going to come out hopefully. I just feel like it's inevitable.
- M:** So Flint yesterday, here tomorrow.
- R:** Yeah. Three days from now or three years, but I'm sorry.
- R:** Unfortunately, some of these things don't pop up for 20 to 25 years. Flint, Michigan was a good example and that happened pretty quickly, but who knows what the effect of water and drinking water will be on our children or children's children because it just hasn't surfaced yet. We don't know enough.
- M:** Well, thinking back locally, which one of these wild animals contributes the most, do you think? The pipeline, development? Tubing? I'm just going to call it other recreation on areas. Animals. I'm going to put animals and agriculture together, if that's all right. Then, industry, power plants. So we have pipeline, development, recreational areas such as tubing, agriculture, industry, and power plants. So which one of those do you think is the biggest culprit? If you could only stop one from polluting, which one would you stop?
- R:** 5.
- M:** You would stop industry.
- R:** Yeah, I'd say 5, too, industry.
- R:** Development.
- M:** Development, okay.
- R:** [inaudible].
- R:** That'd be 5A. 1A and 1.
- M:** Dennis, say that again?
- R:** They would be 1 and 1A.
- M:** So they're equally. They're equal ...
- R:** Yes. I mean you could say ...
- R:** Look at all the houses that go up.
- R:** Right. Commercial, industrial, and residential development.
- M:** So circling back just a little bit, you mentioned the government or something. There has to be some standards. My question is, is it feasible? Is it feasible to clean the water? I mean, is that a pipedream that we have that's gone? Is it too late or can we ... is it possible to clean the water? Paul, what makes you say that?
- R:** Anything's possible.
- M:** Make it specific to water.
- R:** If someone could take the initiative and get the laws passed and get the economic resources behind it, you can clean up anything. You can do anything, but it takes legislation and it takes resources.
- M:** Give me an example of legislation and give me an example of [inaudible].
- R:** Someone passes a law that there will be no more development or limits development to a certain amount in a certain area. Industry can't dump into the lakes. I know there's a lot like ... But there didn't used to be. Then hold industry and other's accountable for what goes on.

Group A – Suburban; May 12, 2016.

- R:** If you look at it from, again – I'm in healthcare – a public health perspective, if you look at when there's a health crisis, whether it be in Flint, Michigan or you're talking about the Zika virus. Once there's a public health crisis, then a lot of times the resources do get directed towards maybe more of a crisis situation than maybe something that's bubbling under the surface.
- M:** How would that affect water here?
- R:** I think, again, if it was identified as being an emergency and something was directly related to the water being in poor quality, then additional resources might be focused on it.
- M:** Okay.
- R:** I think in this area if they had control of the pesticides it would make a big difference. So that's agriculture, pesticides and ...
- M:** Wait a minute. Is pesticides industrial or retail because ... ?
- R:** Both.
- R:** Well, it's agricultural but it's also on the pesticides, fertilizers on the lawns. [inaudible]. Mainly just think about farming and the solution is the buffer zone between the farmland and the creeks and rivers and stuff, which there are not major buffer zones at this point.
- M:** So who should take care of this? What entity? What should the government do? What should private industry do? What should non-profit groups do? What should employers do? Not what, but who can do it? Who's got the force, the will, the determination, the resources, the authority, the power ... Who should do it?
- R:** It's got to be the government.
- M:** Which kind of government?
- R:** The local government. It starts with local.
- M:** What do you mean by local government?
- R:** This township. The local government. Everybody. If you don't like the representatives, vote them out. Get new people. They can't do any worse.
- M:** Anybody else have a thought about local government? Good, bad or indifferent as it relates to affecting water quality.
- R:** I just wonder if local government has the resources or funds to make a difference.
- M:** So, if the local government had the funds to make a difference, would you trust somebody?
- R:** I'm pretty trusting.
- M:** Okay. In addition to local government ... Anybody else want to tell me briefly about local government as it relates to doing something about water pollution? Christopher? Any thoughts? Christine?
- R:** I would say it's a better bet if local government to do something if they also live in the neighborhoods that they serve. It affects them and their children also. I mean, they're more concerned with whatever perks that they're getting or whatever perks put them there to make votes for whatever it is that there may not be their agenda or may not even be the agenda, the platform that they stood on to get there.
- M:** Pushing back, playing around. It should not be the business of the state?
- R:** Yeah, that's still true. [inaudible]
- R:** No, it should be.
- R:** The County because ...
- R:** County first, yeah.
- R:** Because a township, one township could be very proactive in terms of taking measures to clean it up, but the one right upriver is not, so they get a lot of ...
- R:** I personally think in this area it's come a long ways as far as water quality goes. So I don't know if you put more constraints on it and more restrictions, isn't this going to be another company that's going to be like, "Oh, I'm going to move down south or I'm going to move to Mexico and we're just going to call it a day." Then you have a very nice water system and everything's really pretty, but there's nowhere to work or make money. So it's a very fine balance, so I have to kind of have to defend the legislatures a little bit on that because I think things are a lot cleaner than they were. Even the Schuylkill is and down by Philly is a lot cleaner than it was.
- M:** So going back to who should help, who would be the best person or who would be the best entity or organization ... We talked about local government, we talked about county government. State ... Paul?
- R:** I think it's a combination. I think the local governments have to work in conjunction with the county, state, and the federal because local government can only do so much. What I've seen happen is that if you've get

Group A – Suburban; May 12, 2016.

- somebody that's pretty smart on a local basis and they have the wherewithal to go to the county or go to the state or even to the federal level and to find out about what grants are available and to find out about how they could help their local area and get out of the little bubble that they live in, that you'd be surprised what's available and a lot of it goes untapped. There's lots of dollars that are available that people just don't take advantage of.
- M:** Does anybody else have a thought about that that they're – I'm going to paraphrase – if some legislators or local government officials were to perhaps rise or go elsewhere to find out public funds that are available ... Is it a lack of resources, a lack of caring, a lack of awareness? What is it?
- R:** They may care, but in the pecking order of things that they have to address with their limited amount of time, they're going to have ... It's not the top of their list.
- R:** That's the differentiator between a politician that you want from a politician that's just another politician, right? Somebody's who's willing to go that extra ... Who would make that extra phone call, do that extra bit of leg work and say, "Geeze, this is available. Let's take advantage of it."
- M:** What about nonprofit groups? Can you think of one that could affect change in water pollution?
- R:** Yes. It will come to me in a second.
- M:** Okay. I'm curious. With the hunting that you do, is there an association ... I know hunters, and I may be forcing the issues, but I found hunters to be very strong about [crosstalk].
- R:** Ducks Unlimited. Ducks Unlimited is a perfect example.
- M:** Okay.
- R:** Ducks Unlimited through dues, donations, auctions, blah blah blah, have preserved tens of millions of dollars in land locally, water marshes locally and have kept them preserved.
- M:** Can you guys think of any other organizations in addition to Ducks Unlimited that might be not for profit ...
- R:** Sierra Club, [inaudible], Trout Unlimited.
- M:** What's Trout Unlimited?
- R:** It's the same thing as Ducks.
- M:** Oh. It's just a different animal.
- R:** Yeah. Fish.
- M:** Tell me if I'm asking something that's too personal. Do you contribute to them?
- R:** Yes.
- M:** What environmental organization do you contribute to, if any?
- R:** Well, I live in California sometimes on and off so I work with the Ocean Conservancy and I'm concerned with the plastics on the Pacific and stuff like that.
- M:** Do they have a chapter here?
- R:** I'm actually more focused on the ocean than local waterways.
- M:** Do you know of any organization that focuses on the ocean here?
- R:** I don't, but I do think there would be.
- M:** So, if government has a job to do, industry has a job to do, private organizations have a job to do, and not for profits have a job to do ... What is the role of not for profit organizations in cleaning up the water? Christine? What is the role of not for profit organizations to clean up the water?
- R:** Any time you go to any outdoor festival or whatever, which all spring, summer and fall ... There's tents set up and there's usually someone there representing this organization or that organization. I think a lot of times they pay for studies. They may also look into new technologies that keep coming out of college level, whatever, come up with these bright ideas of bacteria that digest plastics and stuff like that. So, I mean, you usually hear about that type of thing from those little grassroots organizations.
- M:** I'm going to say from you, and I hate to push you, but I've got a million questions. Can I say on your behalf and some [inaudible], that not for profit creates awareness and is the edge of research?
- R:** Yeah.
- M:** Did I get that wrong for anybody? Is there anything more that not for profits should do?
- R:** Well, advocacy. They often are the ones that advocate to the different levels of government for their cause.
- M:** Okay. Hoping that they advocate so they can ...
- R:** Change.
- M:** Through?

Group A – Suburban; May 12, 2016.

- R: Legislation.
- M: Okay. Then, we move to government. What role does government play? So we have the not for profits, "Please, please, please do this. Everybody wants you to." So then what do governments do?
- R: Why are you talking about not for profit? Can't you be for profit, too?
- M: Yes, sir.
- R: What's the difference?
- M: One is for propaganda ...
- R: Yeah. Right, but what's the difference?
- M: I don't know.
- R: In terms of the ... They can both do the same thing, right? One makes money, one doesn't.
- M: So what for profit organizations or entities can you think of that would ...
- R: I can't think of anything.
- M: Can anybody else?
- R: Ask the question again?
- M: Sure.
- R: What profit organization ...
- M: Are there any for profit organizations or entities that you can think of that might be able to have a positive effect on water quality around here?
- R: Sure. Any large company.
- R: Yeah, I was going to say. A lot of manufacturers and stuff ... They do have a division of employees that are sort of interested in conservation and making things better, whatever.
- M: What is the role then, for profit and not for profit organizations?
- R: Grants, I guess. They make grants.
- M: So a manufacturer around here, I'm not saying ... So give me a company. Acme Concrete. If Acme Concrete is profitable, what role does Acme Concrete have in cleaning up the water around here?
- R: What role or responsibility?
- M: Responsibility.
- R: They have none.
- M: Effect?
- R: Technically they have none.
- M: What role could they play?
- R: Of course they could play a role if they want to.
- M: And what would that role be?
- R: [inaudible]
- R: They could donate money to clean up different water sources.
- M: Okay. So I hear donate money.
- R: But let's not talk about concrete. How about mushrooms? Chester County. Where's all that money go?
- R: Mushroom manufacturers.
- R: Yeah, the manufacture [inaudible]. They produce mushrooms. Where does all that go?
- M: So what role then do the mushroom growers have?
- R: They should take a role in cleaning up the water or providing funds for it, whatever.
- M: Okay. What do you think [crosstalk]?
- R: Not only cleaning up but preventing it. They threw their soil ...
- R: Farming methods.
- R: Yeah, farming, recycling the mushroom soil so it doesn't go and end up as run-off. It's proper use of it.
- R: Yeah. It's just like dirt.
- R: It seems to me that the for profits especially aren't going to necessarily be directly involved in the clean-up, but perhaps through donations or working and teaming up with the not for profits who have that as a cause, they could funnel some of their terrible donations towards the local situation.

Group A – Suburban; May 12, 2016.

- R: Yeah. Mushroom growers can donate money to Ducks Unlimited.
- M: Bruce, you're also saying that they could change their ways.
- R: Somewhat.
- R: Right, somewhat.
- M: Are there other types of ...
- R: It's very similar to farmers not using their fertilizers and pesticides right next to the waterway. Well, you don't want to dump your used mushroom soil near enough to a waterway for the run-off to go in.
- M: You guys have been going like this to all the other organizations. What can private individuals do? What role do private individuals have in improving water quality?
- R: Representatives that represent you.
- M: Voting is your role?
- R: Sure.
- M: What else is your role as it relates to water quality?
- R: You can do your best not to affect ...
- R: Add into the problem.
- R: Exactly. You can do your best not to pollute anything while you're fishing, while you're boating, while you're canoeing, while you're going down the Brandywine throwing beer cans [crosstalk].
- R: Recycle their cans.
- M: This is not meant to be a pointed question. It's not a rhetorical questions either. I did groups in New Jersey and I asked people, "Well, what can you do at home?" They gave me a whole list. But they felt like they really didn't know. So I found it very interesting that they did, in effect, know what they should do at home, but it felt like they weren't sure or something like that. Are you guys confident about what you can do at home?
- R: Sure.
- R: Recycle for one thing.
- M: Okay. Give me ... Recycle.
- R: Compost things.
- M: Okay. Keep going.
- R: Just reducing waste in general.
- M: What else can effect water quality?
- R: I try not to spread the Rid-X everywhere and kill all the plants that get down in the soil.
- M: You try not to spread the what?
- R: You try not to spread the Rid-X around all the weeds and stuff like that.
- M: Rid-X, okay. Is that a pesticide or a fertilizer?
- R: Yeah, pesticide.
- M: Okay.
- R: Kills all the plants.
- M: Out of curiosity, you're going to be in the hot seat a little bit. Are you ready? So did you check to see how the Rid-X might pollute or not?
- R: No. I decide to do a little squirt. It's so easy.
- M: Oh yes. [crosstalk] What else can people [crosstalk]?
- R: During the wintertime I want my local streets clear. That requires salting and they heavily use salt.
- R: Yeah. Some states they don't use salt at all. They use sand so that it doesn't pollute anything.
- R: I think Seattle ...
- R: I lived in New Hampshire and they don't salt at all. It's just sand and I never missed a day of school in the winter.
- R: Wow.
- R: Here, it drops a flake and everybody takes school off.

Group A – Suburban; May 12, 2016.

- M:** We have to give a little bit of a break, okay. What else can private citizens do? I'm going to focus mostly on how confident you feel that you know everything you can do. Do you feel like you know it all, do you think there's probably more to learn? Do you know nothing? How are you doing there?
- R:** More to learn.
- R:** I'm thinking we have about 20%. We haven't learned anything. We need more education. Everybody does.
- M:** Christopher, what do you think? Are you confident that you know exactly what to do or, you know what, I have no clue?
- R:** Like I said before, it's all about balance. I think more can be done, but then what are the downsides of that?
- M:** What can you do as far as you know that stays within the bounds you're hoping to bind?
- R:** I think I do everything I can, fortunately.
- M:** If you guys wanted to volunteer for an organization that would improve water quality, would you know where to volunteer?
- R:** No.
- M:** No? Dennis, would you know where to volunteer?
- R:** Trout Unlimited.
- M:** Trout unlimited? Christopher, would you know where to volunteer?
- R:** No.
- R:** I don't have a specific organization that I know by name. Like I said, all those outdoor festivals. There's a tent or three set up. You can go talk to someone and they have their clipboard there so ...
- M:** Paul, would you know where to volunteer?
- R:** Yeah. Ducks Unlimited. I'm a member of Ducks Unlimited.
- M:** Would you know where to volunteer? [inaudible] Where do you guys get your drinking water?
- R:** I have a faucet.
- R:** What water is that?
- M:** So you're on well water. Paul?
- R:** Drinking water?
- M:** Yeah.
- R:** Acme. Bottled water.
- R:** So you find [crosstalk] for everything.
- M:** Okay. Acme bottled water.
- R:** Sometimes I go to Shop-Rite, but yeah.
- R:** American water.
- M:** Thank you. So bottled water. [crosstalk] So you get your drinking water out of the well, bottled water.
- R:** Well.
- M:** Well.
- R:** Public water.
- M:** Public water?
- R:** Yeah.
- M:** Tap?
- R:** Yeah.
- M:** Tap unfiltered or tap filtered?
- R:** Filters on the refrigerator. Filter.
- R:** We use a container that has a filter in it. Brita, but for washing dishes, washing machine, washing clothes, taking a shower, it's just straight tap.
- M:** So drinking water though is filtered tap water.
- R:** Yeah. Not 100%. I still drink out of the tap but we have a Brita container.
- M:** Do you make your coffee and tea and soup and stuff out of the Brita water or the tap?
- R:** From the tap.
- M:** Okay. Dennis, what do you drink?

Group A – Suburban; May 12, 2016.

- R: Tap.
- R: Filtered out of the refrigerator but tap.
- M: Have you ever had your water tested?
- R: No. I don't go through a lot of filters so I keep my fingers crossed.
- M: I see your point.
- R: The water is already tested.
- M: So you don't have to.
- R: Yeah.
- M: Have you ever tested your water?
- R: No.
- R: I say yearly.
- M: Oh yearly? Yeah.
- R: Yours is the well though.
- M: So what happens when you test your water yearly?
- R: The same firm that all the equipment was purchased from comes out yearly. They send a reminder. You make an appointment. They come out. They recommend if you need any changes. They say everything looks good if it looks good. When you think things are bad they'll tell you it looks good. I've been in the same place for like eight years now so he's come out seven times and brought extra equipment one year and everything. It tastes a lot better than when I first moved in. It was weird, but then listening to what the neighbors say and there's been different issues with an oil tank I guess rusted out or whatever in the ground. Then there was a reclamation of the soil in the whole neighborhood. I mean, my neighborhood isn't big. It's 6, 7 houses, little cul-de-sac. I don't know how far they had to ... If they just took a couple yards of dirt. That was all before I got there but there's still some residual problems. I guess one of the closer houses complained about stuff and [crosstalk].
- M: What kind of stuff?
- R: Just about different issues that they have in their house with their water. They think it's polluted from that oil spill or whatever.
- M: You said they come out and test, and if it's great they tell you, and if it's bad they tell you it's great?
- R: Well, because you're like, "Something's not quite right," and they have 18 tests that they're supposed to do and if it all checks out fine and your equipment's fine, then there's nothing more that they can do. I mean, they can recommend a different filter or whatever and maybe it's all in your head. I don't know.
- M: So there's water test and then there's water taste.
- R: Yeah.
- M: Has anybody else done a water test or had they tasted the water and done something?
- R: Before I lived where I did, I lived in, not Center City, but I lived in Philadelphia and the water was always weird there.
- R: That's always. That's the chlorine.
- R: Everything would be with a filter. I'd put filters on my taps in the bathroom. I mean, not on my showerhead but anywhere else there was running water.
- M: Wow. Did I get this? I can't remember if I go the total. I know I asked this question, but I don't know if I got the complete total. Tap water, unfiltered? Show of hands? One. Tap water, filtered? Show of hands. Two. Drinking water is bottled water. One. That's not the complete group.
- R: I said well. She and I are well.
- M: I'm sorry. Excuse me, thank you very much. There's just a couple of butterflies in there, guys. You have to be nice to me. Sometimes they collide. Sometimes they have an independent thought. Anyway, what link is there if any ... What link can you make between water pollution and drinking water? How do they link? What is the intersection?
- R: Since I'm from a water company, I don't know. Since you're a well, you'd probably have a more pollution than the water company does.
- R: Or less. I don't know. [crosstalk].
- R: Depends where you are.
- M: Are you immune to water pollution because your water comes from a company?

Group A – Suburban; May 12, 2016.

- R: Probably not.
- M: Therefore?
- R: But I have no idea.
- M: Bruce, tell me about –
- R: I don't inspect the water company's lines.
- M: Say that again, Bruce.
- R: I don't inspect the lines to see where the water comes from.
- M: Do you know if their lines have been inspected though?
- R: Yes. Because they've just been replaced in my township.
- M: Okay. Bruce, how confident are you ... Let's see. Make the link, if there is one, between water pollution and drinking water for you.
- R: Well, there definitely can be a link. Is there a direct link in this local area? Depends where you are, I think.
- M: Let's see. If pollution gets worse, will your drinking water be safe? If pollution lifts is your drinking water even safer? How do they respond to each other, if at all? Your drinking water and water pollution.
- R: I would think they'd be simpatico. If there's a failing in one place, you're definitely going to see it in your own water.
- M: What compensatory things would you do, if any, if water pollution increased to your drinking water? What would you do to your drinking water, if anything, if water pollution around you increased?
- R: Acme.
- R: Yeah. Or put more filters on because at this point I don't have any filters on anything because of the equipment that I purchased. I feel confident that it's okay. It doesn't smell bad or whatever so I don't have filters. So if it got worse, I would probably start with the filters.
- M: Shannon, what would do if the water pollution ... What would you do about your drinking water, if anything, if water pollution around you increased?
- R: I think I probably would try to educate myself more on it because ... Then I probably would try to do more like the bottled water, especially if it's like little kids. That would make me very worried if I was certain that the water was unsafe. I would ...
- M: Where would you educate yourself? How would you do that?
- R: That's a good question.
- R: Internet.
- R: Yeah. I'd start there.
- M: Well, what words would you put in your search engine?
- R: Water pollution.
- R: I guess safety. I probably would like to learn more about the different types of testing that there is. What the different levels are, if there is something that's an outlier in those levels. What the effects of that could be. Again I think my major concern would be with health and the kids, so trying to just learn about any connections between outlier results and negative impacts to the health.
- M: On a scale of zero to ten, where zero is I have no worries, no concerns about the quality of my drinking water, and ten is I'm nervous about every drop I drink from my drinking water, where are you, Bruce? Zero is "Not a worry in the world." Ten is, "Nervous."
- R: I'd say three to four.
- M: Okay. Three to four, so you're pretty nervous.
- R: No.
- R: No. He's above the middle.
- R: Five to six ... Six, seven [crosstalk].
- R: You got to figure out where the water comes from. We have city water. I don't know where it comes from. You have wells. You know where it comes from. That's the difference.
- M: Do you have any notion of where it might come from, Dennis?
- R: It could come from Reading. I don't know. It's American Water Supply. Wherever they bring the water in.
- M: Give me three guesses with the most probable second where you think the water might ...
- R: I have no idea.

Group A – Suburban; May 12, 2016.

- M:** Really? Can you give me one guess?
- R:** Nope.
- M:** Okay. Christopher, where's your water come from?
- R:** City, well, the township.
- M:** What type? Where do they pull that water from?
- R:** I don't know.
- M:** So how concerned or not are you guys?
- R:** I'm not concerned.
- M:** Not concerned?
- R:** I never honestly, I never really think about it. I put a filter on the refrigerator and that's it.
- M:** Zero to ten. Zero, "I have not a worry in the world," and 10 is, "I'm nervous about every drop."
- R:** No. I put myself in the middle. Like five. I don't know. I'm not panicked or anything.
- M:** Paul?
- R:** Three.
- M:** So you're kind of nervous.
- R:** No. Maybe I have it backwards.
- M:** Zero is not a concern in the world and ten is nervous about every drop.
- R:** Well, I wouldn't consider three nervous.
- M:** Concerned?
- R:** Yeah. I'm always concerned, but that doesn't mean I'm apoplectic.
- M:** Please explain your level of concern that is.
- R:** All right, 1.
- M:** Just tell me what gave [crosstalk].
- R:** You always have to worry about, I mean, don't we all worry about food? Don't we worry about where food comes from?
- M:** Okay. So that's your standard, hmm, of worry.
- R:** It's a moderate concern.
- R:** Concern but it's not like it could be completely [crosstalk]. Yeah.
- R:** Water comes from where the watersheds.
- R:** If you lived in Flint you'd be concerned.
- R:** Then it'd be an 11.
- R:** My family lives in Michigan.
- R:** There's two watersheds that provide water locally. One's the Chesapeake Bay watershed, and there's a watershed – I can't remember the name of it – that comes up here. [crosstalk] Right.
- R:** That's a watershed.
- R:** All right. So most of the water emanates from the watersheds in the local areas.
- R:** We just moved in like 6 months ago to this house and I'm pretty sure the water was tested and everything was good. So I'm like a 0.
- M:** I'm going to go see what questions I've forgotten to ask. I'll be right back. You can get another cookie or a coffee. I'll be back in just a minute.
- R:** Take your time.

[unrelated side conversation; moderator returns]

- M:** Should I get your autograph, Dennis? Is that the deal? Can I sell it on EBay?
- R:** No. No.
- M:** All right. This is a question about money, so you can turn to your paper if you'd like and I'll just collect the votes. Here's the question, you can write yes or no, I'll collect the papers and pass them back up here. Would it be worth it to you to pay money out of your own pocket to see the waters around here cleaned up? Y is yes and N is no. Would it be worth it to you to pay money out of your own pocket to see waters around here cleaned up? I don't have [inaudible]. Are you okay about talking about this with each other or should I

Group A – Suburban; May 12, 2016.

- collect the paper? Okay, we're all set? How many yeses do we have if any? One, two, three, four, five. One no? Is that correct, Christopher?
- R:** Yeah, I think there is a lot of waste that could be reapportioned.
- M:** You're doing that because you don't know where the dollars are going these days, let alone adding to them? Okay. Is that what you meant?
- R:** Right.
- M:** I'm really good at putting words in people's mouths, so if I get too far you'll have to ... I didn't say that.
- R:** There's no qualifiers, but yes, if it was a community reason why you would think ... If it was strictly voluntary, you don't know what percentages of the population are doing it. Your money could just be gone out the window.
- R:** With Ducks Unlimited, when you're a member and you contribute, they tell you where it's going. They give you sources and uses statement and they'll show you pictures where ... I don't know if you've ever driven down Route 1 towards the Delaware beaches, but there's a big sign that says, "Ducks Unlimited preserved this space." It's quantifiable, an empirical way to monitor what's going on.
- R:** Trout does the same thing.
- R:** Exactly.
- R:** It also sponsors groups in high school like Downy Town High School as a Trout fishing club now. Besides baseball, football, they have Trout. Penn State does also.
- M:** So Bruce, you mentioned region. Tell me what made you include region.
- R:** Well, for the efforts to be most effective, it's got to be, what? Geographical.
- M:** Yes, no, maybe. Is that true?
- R:** True.
- M:** Why do you got to know it's taking place if it's taking place elsewhere than whether that what you can see? Is it better to have it just here local, local, local so you can see it? Or is it better to have it where it's needed no matter where in the region? Shannon, what do you think?
- R:** Going back to, it seems like a lot of people didn't really know where a lot of the water is being pulled from. So if it's being pulled from somewhere that's not local, then it seems reasonable that you would need to expand a little.
- M:** What is your thought, Dennis? Right here that you can monitor and you know it's happening right here? Or is it okay if some of the funds go to other parts in the region?
- R:** Yeah, because it's going to affect you eventually. Water flows downstream.
- M:** As do other things.
- R:** Yeah. If you go there, it has to be local. It has to be regional also. We don't know where our water comes from. I don't know. It could come from Reading. It could come from anywhere. It could come from Colorado for all I know. But you know where the well water is. It's in the bottom of your well.
- M:** Christine, do you have a thought about that? About if the money should, if there is money, if it should stay local where you can watch it, or if it makes more sense to put it out where it's needed the most?
- R:** Well, I think local, especially if it's tax money or whatever. I feel like if it's somewhere else, that's more like a Superfund site issue. I don't know the answers to that. One thing I do what to say though and no one's mentioned it and I'm sitting here and I'm like, "Oh, okay. This is Coca-Cola." So the thing is, Coca-Cola goes into areas and they purchase these clean watersheds or whatever and they say, "The water is ours and you can't have it. Well, you can pay for it but it's our water now."
- R:** Yeah. In California during the drought they were doing that. Nabisco was doing that and they were buying the water. Meanwhile there was a major drought.
- R:** There's this whole thing that says, "Water is the universal right." That's why they go into little towns in Africa or whatever and try to help them clean up their water so they can drink it, but in the end it ends up being a corporate thing that we have to pay for. I just thought it was interesting no one mentioned it.
- M:** Why that –
- R:** Yeah, but you don't have to buy that bottle of water.
- R:** Right.
- R:** Coke has it because if you like it, you have to buy it.
- R:** The other one's Pepsi though.
- R:** Yes.

Group A – Suburban; May 12, 2016.

- M:** Dennis, we're not talking about that. We're talking about when Coca-Cola or Nabisco comes in and they buy all the local water.
- R:** Who sells it to them?
- M:** Nabisco – oh, I see.
- R:** No, who sells them the water?
- M:** Oh I don't know.
- R:** It's got to be the township. Got to be the local government.
- M:** It's got to be.
- R:** I don't think so.
- M:** How would you feel if some money was committed to ... How would you feel if money to clean up the water around here was committed ... I can't read this question right. How would you feel if some money was committed to this purpose, the purpose being cleaning up the water around here? How would you feel if some money were to committed to this purpose out of your township or municipality's budget?
- R:** Sure.
- R:** Yeah.
- R:** How do we know it's not being done now?
- M:** I don't.
- R:** Well, I'd say yes.
- M:** Any qualifications on that? Okay. Township spending [inaudible] on water?
- R:** It's not all. That's a little different.
- M:** Then tell me more about what you're thinking of the township spending money on clean water. Is it expected?
- R:** Well, my township is not spending it. It's going to the water authority.
- M:** What do you mean?
- R:** Cowan [phonetic] Township pays American Water to deliver water to our homes. I don't know where it comes from.
- M:** Okay.
- R:** Still don't know.
- M:** Okay?
- R:** But we pay a certain amount of money every other month for sewer and water.
- M:** Therefore?
- R:** And trash.
- M:** Therefore?
- R:** So they're spending money somewhere for our water to get it to our homes.
- M:** Okay, thank you. Christine, even though you have a well, how would you feel if some money were committed to the purpose of cleaning the waters around here out of your township or municipality's budget?
- R:** That would be a good thing.
- M:** Because?
- R:** Anything that would clean up the water like you mentioned before, cleaning up around you in the end helps you ...
- R:** I know with the whole Flint thing, my kids go to public school, so I have gone and looked to see what I could find out about the water where my kids go to school. I think it would be good, despite having a well, you're not confined to just your house.
- M:** That's very interesting. What prompted you to look at the water quality of the school?
- R:** I love my children and I want them to be drinking safe water.
- M:** Would you have done that before Flint, Michigan?
- R:** No.
- M:** Bruce, do you have kids?
- R:** Yeah.

Group A – Suburban; May 12, 2016.

- M:** When they were growing up, did you check the water? I mean I never heard this before. Did you check the water quality in the neighborhood and schools and stuff?
- R:** Yeah. I called the water company to find out primarily what the fluoride condition was. Whether there was fluoride in the water or not.
- M:** What prompted you to do that?
- R:** Whether to have the dentist do fluoride treatments or not, but there's pros and cons of one way or the other.
- M:** Did you find out about the water quality when you were asking about whether or not there was fluoride in the water?
- R:** No. The American Water periodically sends out a quality report every three months I believe it is.
- M:** Say again does?
- R:** Every three months.
- M:** Okay. What if your taxes went up slightly? Assuming that the tax money, the increase of taxes, would go towards cleaning up the waters around here?
- R:** Taxes are going to go up regardless.
- R:** They're already too high.
- M:** So your vote is no, Dennis.
- R:** No.
- M:** [inaudible]
- R:** I think they could reevaluate how they spend.
- M:** So you're in Chris' camp?
- R:** Yes.
- M:** They have enough. They just use it better.
- R:** Yeah. Balance their budget like everybody else does. Just don't spend money because we can raise taxes.
- R:** First I just want to get information. If someone was saying that there is a demonstrable water problem and it was going to take years to plan and resolve it, then there might be more of a commitment to having tax dollars allocated to it. Without the information saying that there is a huge issue ... I don't know. [crosstalk]
- M:** So maintenance isn't going to cut it for you. Maintenance, no. It's got to be something.
- R:** It's got to be something, yeah, to say that it has to take priority over some other things that you care about or other things that the government is trying to do.
- M:** So maintenance is insufficient. It's got to be a thing. It can't be maintenance?
- R:** I don't know what you mean.
- M:** Well, Shannon is saying that she might consider having her taxes rise a little bit if she knew that there was a certain concern about water. So without a certain concern or a certain event, I'm wondering if it's still worthwhile to have your taxes go up a little bit.
- R:** We already pay for maintenance on our water, but the water [inaudible] that's part of our bill. That's what they do. Maintain the water.
- R:** If it was a water quality ...
- M:** Say that again, Bruce.
- R:** The water quality. They monitor the sewer system and maintain the [inaudible].
- R:** Filters, put new pipes in. They do all that.
- M:** Just pushing back, everybody give water quality a B here. Nobody thought it was pristine, perfect. So there is an issue, because it ain't perfect. Is it worth that your taxes might go up?
- R:** No.
- M:** Okay.
- R:** That's what I was saying. The regional coordination, because you're thinking of the Brandywine River, what happens in the headwaters of the Brandywine, wherever that is.
- R:** Mars Creek a lot of times ...
- R:** Is that the beginning of it?
- R:** Yeah, just about. Actually, it goes up further but Mars Creek is the main one. Right now they're taking water out of the Mars Creek and the Brandywine [inaudible].
- R:** They're tapping into it?

Group A – Suburban; May 12, 2016.

- R: Yep. They have pumping stations all along there.
- R: How are they cleaning it?
- R: I have no idea. I just know they are pulling it out.
- M: Zero to a gigagillion dollars, how much ... If you were willing for money to escape from your wallet to help improve water quality, do you want it done monthly, annually, quarterly? Is there a way that's easier or better? Give me a thought. Monthly, quarterly, annually?
- R: I think the option should be given to you on your monthly bill or your quarterly bill. I think we pay quarterly. Would you care to pay ten dollars towards a water purification fund or something? Behind it there was an explanation of what it went to, some type of sources and uses statement which spelled out what it was for. Check a box, add ten dollars to your bill, yes/ no.
- M: Shannon, how much would you pay out of your pocket, if anything at all, annually, quarterly, monthly, to improve the water quality around here?
- R: I don't know how much but I think it would be better in small amounts monthly just so it [crosstalk].
- M: Should it be 7 million dollars or a penny?
- R: Personally? Seven million is fine. [laughter]
- M: [crosstalk] Because you're a wealthy hedge fund manager. [crosstalk] Shannon, how much though, about a month?
- R: Not a lot.
- M: Not a lot. Meaning? [crosstalk]. Three dollars?
- R: You can't quantify that.
- M: I'm going to ask though. Three dollars or 10 dollars or 25 or a 100? How much can come out of your wallet if you're willing?
- R: Monthly? Not 25 dollars.
- M: Okay, so how much?
- R: Five.
- M: Thank you. Anybody else got a notion of an idea of how much they're willing to let escape?
- R: Nothing.
- M: Nothing. For you nothing. Bruce?
- R: Yeah. We already pay.
- M: Okay. So nothing for you?
- R: Yeah. Based on the notion that it's already in the water.
- M: And Chris, no for you? Christine?
- R: The five sounds okay. Maybe 10 at the most.
- M: Okay. Great. Would you have confidence that a fund would help with the problem ... We already answered that question. Okay. We talked about whether or not it was going to be region or local, we kind of sort of morphed towards region. How would you have confidence in that? What would you have to know to make it be okay that the water would go to the region rather than just in your town or in your township?
- R: Could it be possible to administrating it?
- M: Such as?
- R: Who.
- M: Yeah. Who would be ...
- R: Well, I don't know who.
- M: What would be bad news and what would be good news?
- R: I don't know. That would have to be spelled out. Who is in charge of it.
- M: Who would be reassuring for you and who would be, "Oh"?
- R: I would feel more comfortable with the not for profit with a specific grant that also had reporting responsibilities.
- M: Such as?
- R: Not government run.
- R: Right.

Group A – Suburban; May 12, 2016.

- M:** So not government. Such as?
- R:** Well, these guys know the nonprofit groups [inaudible].
- R:** if it's local, too, you might see results. If it is more regional, you know, 60, 150 miles away across the state, whatever [crosstalk].
- R:** I would think at this point to be regional it would be [crosstalk].
- M:** No. My question is who, not what, but who. Who government, who not for profit, who for profit, who private citizen. What type of organization if any ... No. What type of organization should administer or monitor or...that fund? Let's go back here. Should it be the people who bring you the pipeline?
- R:** No.
- M:** Okay. Should it be the people who bring it to me?
- R:** No.
- M:** Should it be the people who bring you animals?
- R:** That's agriculture, right?
- M:** Yes.
- R:** So is that their best interest or not?
- M:** I don't know.
- R:** Probably not.
- M:** So should they do it?
- R:** No.
- M:** Okay. How about the fine people that bring you industry? Paper and DuPont?
- R:** I bet none of the above.
- M:** Okay. So who should?
- R:** I don't know.
- R:** An independent [crosstalk].
- R:** They would have to be independent. Right.
- R:** All of those companies ... The tubing thing. You're supposed to be sort of environmentally minded if you want to spend the day on the river getting sunburned. It's one thing they threw their cans or whatever, but the tubing company may clean up, go out monthly and do a clean up somewhere.
- M:** So you believe private industry then. I'm sorry to summarize. So, what about townships? What about county governments? I don't know if you guys have ... What about state governments? What about the federal government?
- R:** They all should do something.
- R:** Well, you're going to do it regionally, you can't do it with the federal government.
- M:** Okay. State government.
- R:** Well, counties maybe.
- M:** Okay. What about UPenn? What about State College? what about University of Delaware?
- R:** With monitoring the funds? Is that what your question still?.
- M:** Yeah.
- R:** Somebody that's independent anyway. Not government and not private citizens because they don't know, so it would have to be somebody independent.
- M:** A watershed is an area of land ... I have to read this because I'm required to. A watershed is an area of land where all surface water, rain, melting snow and ice, collects in streams and rivers before ultimately joining an ocean. The Christina, Red Clay, White Clay, and Brandywine creeks collectively form the Brandywine-Christina Watershed.
- R:** Christiana.
- M:** Did I do it wrong?
- R:** That's okay, but it's Christiana.
- M:** Will you correct me each time I get it wrong?
- R:** The second one is Christiana, the first one's Christina. Right? Okay.
- M:** Oh.

Group A – Suburban; May 12, 2016.

- R:** I don't know why Christina is in there though.
- M:** So it should be Christiana?
- R:** The second one.
- M:** Can you guys correct them on your sheets?
- R:** No. The spelling's right. It's just the way they say it.
- R:** So creek and crick.
- R:** No. There needs to be another A.
- R:** No. There is another A. It's Christiana. The first one's right. The second one's wrong.
- M:** Are you guys all familiar with ...
- R:** That's confusing.
- R:** Yeah.
- M:** It doesn't bother me. I'm always confused. Are you guys familiar with the concept of watershed and also are you guys familiar with the location of your very own watershed? Shannon, have you heard of watershed before?
- R:** No. But I understand it now.
- M:** Sure. When did you last use watershed in a sentence?
- R:** 15 minutes ago. [crosstalk]
- M:** Talking about with friends, family, neighbors, elected officials or what not, what is the last, other than in this group, that you said watershed.
- R:** Maybe a month ago.
- M:** Tell me about that instance, Dennis.
- R:** We were talking about fishing with Trout Unlimited.
- M:** Okay. The Brandywine-Christina, or should it be Christiana? I'm just going ...
- R:** Christina.
- M:** Okay. The Brandywine –
- R:** No. Christiana.
- R:** Christiana.
- M:** Well, then correct that one, too. "The Brandywine-Christiana Healthy Water Fund is a proposed funding strategy to address pollution in the Brandywine watershed. Water funds may be new to this area, but the concept is not. Funds have been implemented to successfully elsewhere in the United States and other countries. At its most basic level a water fund enables people downstream such as residents, farms, and whole communities to invest in upstream conservation measures designed to restore and protect fresh water resources, both the quality and quantity far into the future." So put group one someplace on the front of that page please.
- R:** On this one?
- M:** Yes. We have to pretend that everybody has a copy so I'm going to read it to you because this didn't get printed. On a scale of one to five, one being strongly opposed, five being strongly support ... One is strongly oppose, five is strongly support. On a scale of one to five how willing or not would you be to support the healthy water fund? One is strongly oppose. Five is strongly support. Okay. Just like in 3rd grade, number on your papers please. A through H ... [sound effect]. ABCDEFGH ... I have to read a bunch of these. This was supposed to get photocopied and it didn't get photocopied, so we're going to listen to the unending sound of my voice. So same scale, one is not at all agree. One is the bad bad bad part, and five is the great great wonderful part. Tell me your reaction to knowing that the healthy water fund will upgrade water treatment plants? One is strong oppose, five is strongly support. Something you change, one to five?
- R:** Can you read that back again?
- M:** Knowing that the healthy water fund will upgrade waste water treatment plants. One to five. Ding, next. Knowing that the healthy water fund will protect and improve our drinking water, that's B, protect and improve drinking water. One is strong oppose. Five is strongly support.
- R:** How can you answer a question if you don't have any idea what is valid? How can you [crosstalk]. How can you say you would support it? Like give me 5 bucks. Well, why do you want the 5 bucks?
- R:** "That's none of your business. Just give me the five bucks." A stickup man does that. [crosstalk] But he uses a mask.

Group A – Suburban; May 12, 2016.

- R:** Could you at least give me 5 dollars because I need this for something.
- R:** I've got a dollar. [crosstalk]
- R:** That's a ridiculous question.
- R:** I say they upgrade the sewage treatment plants.
- R:** I'd give them five bucks.
- R:** But show me something that tells me how you going to do it and what the results are. She asked that question. I'm sorry, sweetheart. I can't answer that because I don't know enough about it. Right?
- R:** You're right.
- M:** Re-do. Please take a lined sheet of paper.
- R:** Are we not going to do ABCD?
- M:** We are. But I have to do it in a more ...
- R:** Scientific?
- M:** Yes, sir. That's exactly right. More scientific and more efficient and more comparable. We still have A though H. The questions are using a scale of one to five, five is much more positive and one is much more negative. So the scale has been reversed now. Five is much more positive and one is more negative. Tell me then how you feel about the healthy water fund all together. 5 is much more positive or one is much more negative. Knowing that the healthy water fund will upgrade waste water treatment plants, how much more positive or negative does that make you feel about the healthy water fund? Five is much more positive, one is much more negative or any number in between. So be careful of the scale of your [inaudible]. Also, next to that one that number would be someplace between one and five, write your first impression of how upgrading waste water treatment plant. Your first impression of that as an aspect or a benefit or a component of the healthy water fund. Okay, B. This makes me feel much more positive about the healthy water fund or 5, this makes me feel much more negative about the healthy water fund or one
- R:** Wait a minute.
- R:** If A has two parts to it, part one and part two, right? Because the second part of A was the waste water treatment plant?
- R:** Right, but, number one was most negative and number five was most positive for that already. Now you're flipping it around. [crosstalk].
- M:** I reversed the scale, you guys, it's all my fault. One is negative, bad bad bad. Wait a minute. [crosstalk]
- R:** That's what I'm saying.
- M:** One is negative.
- R:** Five is plus.
- M:** Five is positive, plus plus plus. So now I'm going to read to you different aspects of a healthy water fund and I'm going to find out how each of these make you feel as it relates to the healthy water fund. Do you feel much more positive about the healthy water fund now that you've learned that it will, or do you feel much more negative about the healthy water fund now that you found it will. I'm now going to give you that it will A though H. [moderator leaves]
- R:** Lost me at number 1.
- R:** The EPA requires the townships to keep their sewer treatment plants at a certain level. If they're in violation of that, does that mean the healthy water fund comes in?
- R:** Not all municipalities have water treatment plants, correct?
- R:** If they have public sewer they have to, unless they do multi-townships.
- R:** I don't think this township would have a water treatment plant, do they?
- R:** No. Because these are all [crosstalk].
- [unrelated side conversations; moderator returns].
- M:** Let's just talk about each of these aspects. If a healthy water fund upgrades the waste water treatment plant, how would you feel? Is this something that is important to as it relates to a healthy water fund? How important is it or not? Do the healthy water fund upgrade waste water treatment plants?
- R:** Three.
- M:** We can skip the rating. Just talking about it then.
- R:** Yeah. Medium.
- R:** I gave it a four but ...

Group A – Suburban; May 12, 2016.

- M:** Tell me what made you give it a four.
- R:** Well, I figure if you're going to work on the front end with the watershed, then you should probably work on that too. Because the watershed is the clean water coming in and that water should be [crosstalk].
- R:** Pulled out. But it's going somewhere else too. Going back into the ground. This is going to her well.
- M:** If you guys, how important or not is that to you? Is that a big deal, a medium deal, or not so big?
- R:** Three or four.
- M:** Okay. If the healthy water fund were to protect and improve drinking water, how important or not is that to each of you?
- R:** A four.
- M:** Well, talk to me about that. What makes it ... Sounds like pretty important.
- R:** I would think that has a probably a higher correlation on your everyday health.
- M:** Okay. How important or not is it that healthy water fund remove toxic chemicals? How important is it or not that the healthy water fund remove toxic chemicals from local streams, creeks, rivers and ponds?
- R:** Five.
- M:** Tell me about that, Christine.
- R:** I mean that sounds like it should be a focus. One of the most dangerous things that could affect everyone. It affects the people, it affects the infrastructure delivering it to the people. That would be one of the highest things to do first with the money I guess.
- M:** How important or not is it to you to provide funding to help local agriculture industry address water pollution problems? How important or not is it to you that the healthy water fund provide funding to help local agriculture industry address water pollution problems? Discuss.
- R:** To keep them from creating pollution or from being the recipient of water pollution?
- M:** To help the local agricultural industry, address.
- R:** Yeah. So I'd say four for that one.
- M:** Explain your thinking, Christopher.
- R:** Well again, that's like front end stuff, so that's why you have these problems to begin with. So if you're going to have agriculture all the way upstate and they're going to come to this watershed, it doesn't make ... Why not address it up ...
- R:** At the beginning.
- R:** Right. Probably Canada.
- R:** Right. At the source.
- M:** Okay. How important or not is it to you that a healthy water fund reduce erosion and flooding?
- R:** Well, in this area I think that's 5 because of the Brandywine, it always overflows. It floods out everybody's home that's along it.
- M:** How important is that to you, Paul, that the healthy water fund reduce erosion and flooding?
- R:** I'm going to be a real jerk. I'll tell you, I have no idea on any of these because I don't know enough about them to make a decision.
- M:** How do you feel about ... How important or not is it to you, Christine?
- R:** I put it not as high as the toxic chemical, but fairly important, so I put it at a four. I would think that that plays into a lot of issues, but not as important as removing toxic chemicals.
- R:** Right. Very well said.
- R:** Agreed.
- M:** How important or not is it to you that a healthy water fund will protect and restore wetlands and forests to help absorb storm water? How important or not is it to you that the healthy water fund protect and restore wetlands and forests to help absorb storm water?
- R:** I'd give that a five also. I think that's also at many of the shore points that's been one of their focuses for since I can remember even as a little kid. I would rate that as a five also.
- M:** Who's had that as a focus?
- R:** A lot of the shore points, like down the Jersey beaches that there is a big push to protect wetlands because when the storms come up the seaboard, I guess they hit there and they sort of act as a barrier to maybe absorb, kind of buffer the towns where the people live.

Group A – Suburban; May 12, 2016.

- M:** Okay. Then how important or not is it to you if the healthy water fund plants trees and greenery in cities and towns? How important or not is it to you that a healthy water fund plant trees and greenery in cities and towns?
- R:** Why in the cities and towns? Why wouldn't it be all along the watersheds?
- R:** Everywhere? Yeah.
- M:** Say more Bruce.
- R:** One of the things ...
- R:** We put plants and trees in Philly in the concrete. [crosstalk] suburbs, you know. You need it upstream or whatever.
- R:** There needs to be buffer zones between the agricultural land and the waterways. That's where that would come in I would think.
- M:** What would be sillier, what would be right on point about trees in downtown areas? What made you say what you did?
- R:** Air pollution for one thing but what does it do with the water?
- M:** I don't know. What do you think it might do?
- R:** I don't think it does anything.
- R:** Not that I've seen.
- M:** How important or not is it to you that the healthy water fund provide funding to help townships and municipalities address water pollution problems? So this is townships and municipalities. How important or not is it to you that the healthy water fund provide funding to help townships and municipalities address water pollution problems?
- R:** Put that in the middle, like a three.
- M:** It's not how effective they would be, it's how important it is to you. So I'm going to ... Have you picked the thing that's the most important for you? I'm going to read the list for you and then if you could just tell me which is the most important to you. Chris, stop me when I get to the most important one. Shannon, for you knowing that a healthy water fund will upgrade waste water treatments plants, protect and improve our drinking water, remove toxic chemicals from local ...
- R:** Yeah, I'm going to go with the chemicals.
- M:** I'm sorry?
- R:** The chemical thing.
- M:** So remove toxic chemicals. That's the one you want to focus on the most?
- R:** Yeah.
- M:** Okay.
- R:** Me, too.
- M:** Okay.
- R:** I think that's number one for everybody really. They want the chemicals out of the water.
- M:** Are you guys doing it just so I don't read anymore or is that really the truth?
- R;** No, no.
- R:** No. I mean the toxic chemicals kill the environment. Kill the fish, the birds. It gets in the drinking water, it hurts your kids. It does everything. Everything else is okay. We can deal with.
- M:** Christopher, did you have a different one?
- R:** No. That one's good.
- M:** Bruce?
- R:** I agree.
- M:** One two three four five six.
- R:** I think.
- M:** How important is it? Now how ...
- R:** Tremendous I think.
- R:** Which is it [crosstalk].
- M:** Which of these is the most important to you?
- R:** Which one did you say?

Group A – Suburban; May 12, 2016.

- R: I said the chemicals.
- R: Chemicals.
- M: Okay.
- R: Make it unanimous.
- M: Okay. This goes to your question a little bit, Christopher.
- R: Which one?
- M: The one I'm going to read next. I through O on your ... Continue.
- R: I through O. You need an easel.
- R: Toxic chemicals.
- R: A white board.
- M: How important ...
- R: Townships don't spend enough money.
- M: How important is it to you or not that this healthy water fund ... It makes me feel much more positive or much more negative. How important is it to you or not that the projects paid for by the fund will create good paying jobs in a local area and industries like engineering, construction, and landscaping. How important or not are jobs related to the ...
- R: Very.
- R: Very.
- M: Explain your thinking.
- R: It's good to create jobs. It's not bad. It depends on what they do.
- M: Any other thoughts on how the importance of creating jobs related to the healthy water fund ...?
- R: I put it in the middle also, like a three. I mean chances are if it is a job created from a fund that it's probably going to be temporary I would think. I don't know if in the long run that will have a big impact on taxes or anything like that, how many people would it employ.
- R: Any of the funding's going to get anything done though. Somebody has to do it. To me it's a part of the process of getting those end results that we want.
- R: It might be a side benefit, but I don't know if that's the key reason for the fund or makes it important for the fund's goals.
- M: How important is it or not to you that the fund will plant trees in neighborhoods and create beautiful new rain gardens and green spaces that local communities can enjoy? How important ...
- R: Two.
- R: Two.
- R: Two.
- M: Explain your thinking.
- R: It doesn't matter.
- M: Anybody want to explain their thinking? How important or not that the fund will plant trees in neighborhoods and create beautiful new rain gardens and green spaces that local communities can enjoy?
- R: 2.
- M: Explain your thinking.
- R: A lot of times that's like a PR thing where so the public thinks something's taking place but the reality is [crosstalk].
- R: How much of the trees and stuff have been removed [crosstalk] that purification.
- R: When you actually get to the water itself, there's not really been any change.
- M: How important or not is it that the healthy water fund ... How important or not that the healthy water fund environmental advocates and experts say this fund is needed to make our waters healthy again? How important or not is to you that knowing that environmental advocates and experts say this fund is needed to make our waters again? I'll just put experts.
- R: I have no idea. Who are the experts? You can't tell until you find out who the experts are.
- M: And Paul, you laughed too?
- R: You're asking us questions
- R: Where we have no idea.

Group A – Suburban; May 12, 2016.

- R:** You're asking broad based questions. We have no data points to answer.
- M:** Well, I'm not asking you to evaluate the data, I'm asking ...
- R:** But you're asking us to give opinions on things that ... You're using this and we have no idea what the healthy water fund is. If someone could explain to me and if you would have sent it to us and said, "Hey. This is something we're going to talk about. Here's what this is about." We have no idea.
- M:** You have that paper in front of you.
- R:** This paper?
- R:** Yeah, that doesn't do ...
- M:** On the second paragraph. Well ...
- R:** Usually experts are self-serving.
- M:** Okay. So this wouldn't work for you.
- R:** I don't know if it's going to work for me or not. I don't know what we're defining.
- M:** I don't need your appreciation or your understanding of it. I need to how important or not it is to you ...
- R:** Ma'am. I can't give it to you.
- R:** A two.
- M:** Okay. A two. Explain that for me, Christine.
- R:** Well, like he said the experts are self-serving so they're saying, "I'm an authority. I know these things. The water is bad. You should hire my company."
- M:** Okay.
- R:** Yeah. They have a job, which is number one. Then they're the experts, they're number three. You don't know. How can you trust them if you don't know who they are or what they're doing or what you're talking about?
- M:** I'm not asking about that, are experts good, bad, or indifferent. How important is it to you that –
- R:** Not too.
- M:** Okay. How important or not is it you that the fund clean up contaminants like motor oil, chemical, fertilizers, weed killers, and heavy metals from industrial smoke stacks? I'll just put contaminants.
- R:** That would be a five.
- M:** Explain your thinking behind that.
- R:** Clean water [crosstalk].
- R:** It's the whole purpose of the whole thing is having clean water so that would be cleaning out the contaminants.
- M:** Shannon, your thoughts?
- R:** It's cleaning up air pollution.
- M:** How are air pollution and water pollution related, Bruce?
- R:** Through rain.
- R:** Hand in hand.
- R:** We used to have black acid rain. It's crazy.
- M:** How important or not is it that the funds will help keep bacteria and viruses from sewage and dog waste out of the water, making it safer for swimming? How important or not is it to you that the healthy water fund helps keep bacteria and viruses from sewage and dog waste out of the water, making water safer for swimming?
- R:** I'd give that five.
- M:** Anybody else want to comment? What makes swimming important to you not as it relates to this healthy water fund, that swimming will approve.
- R:** I think it's probably not as important as the contaminants in the drinking water. So I would rate it less than that.
- M:** Okay. How important or not is it to you that the fish be safe to eat? How important or not is it that the healthy water fund help make fish safer to eat? That the fish are made less safe to eat by the contaminants that flow into the waters. This fund would help protect the seafood we love to eat. So how important is it to you or not that this healthy water fund help you protect seafood?
- R:** I think most people are just game fisherman now. They throw it back.

Group A – Suburban; May 12, 2016.

- R: Or crabs. Clams.
- R: She said fish.
- M: Seafood.
- R: Oh. With the Chesapeake Bay being polluted and now recovering or whatever, I think that is very important. I don't know how relevant that is to the Brandywine River and rivers upstream.
- R: It's not.
- R: It's not. There's no crabs or anything.
- R: Most fishermen return the fish to the creek.
- R: But I guess the question is would you want to be able to eat the fish from ...
- R: No, I think they fish to fish. Not to eat.
- R: Okay. I didn't think so either. [crosstalk].
- M: How important or not is to you that the healthy water fund help businesses, renters, everyone in the community, that they will pay into the fund, not just homeowners? How important or not is it you that each and every person has a responsibility to pay a fair share to have waters clean and healthy?
- R: Five.
- R: Five, yeah.
- M: So I just put ...
- R: Everybody should pay into the fund.
- R: You drink water.
- M: Shannon, tell me how it's fair that everyone pay.
- R: Because everyone uses the water supply.
- M: I just wanted to know if it was ... So of these, can you tell me which one is the most important for you? Thinking that the healthy water fund will help affect these different things, which of these are the most important for you? That it adds to jobs?
- R: L, contaminates.
- R: Yeah.
- M: That's Dennis' though. So Dennis your vote is contaminants.
- R: Me, also.
- M: Paul, I'm not going to bother you.
- R: Sure.
- M: Well, I'll just [crosstalk]. Then Shannon?
- R: I think [inaudible] contaminants.
- M: Okay. Paul?
- R: Yes.
- R: Me too.
- R: Me too.
- M: Okay. Contaminants. What is the second most important for you of these? That the healthy water fund helps add jobs, that the healthy fund can add trees, that the healthy water fund according to experts is important, that the healthy water fund will keep bacteria and viruses out of swimming water, that you can eat fish again, or that everyone pays? Which is the second?
- R: I think the down water seafood to crabs and the clams.
- M: Bruce, what is your vote?
- R: Seafood.
- M: Okay.
- R: Mine is the bacteria. You're not going to have seafood without bacteria.
- R: [crosstalk] The swimming one, right, with contaminants. Sorry.
- M: The swim. Okay. Then Shannon, what is second most important for you? [inaudible]
- R: I was going to go with everyone just to help spread out the burden.
- M: Because it helps you spread out the burden. Is there anything else that anybody would like to comment on? Of these, which is kind of the least important?

Group A – Suburban; May 12, 2016.

- R: Experts.
- R: Experts.
- R: Yeah.
- M: Okay. Is there anything more that you want to add about how experts are not important as it relates to ...
- R: They're important but you've got to know who they are. I mean, if the guy has a degree in animal husbandry and he's talking about agriculture, maybe.
- M: I'm not asking you about the quality of the experts. I'm going to ask ...
- R: They're not important unless you know what they are or who they are.
- M: If they were perfectly qualified in your eyes, how important or not is it that experts ...?
- R: I'd say five or six.
- M: What makes a qualified expert important to you about their ...?
- R: What their resume is.
- R: Clout behind their name. Like the Jacques Cousteau Society or something, you know.
- R: I think it's because I think a lot of us have said we don't know a lot and there's an education deficit in a lot of the regards so if you hear something from an expert that you have faith and confidence in, it could help to educate you on if there's a problem or not.
- R: Someone who has practical experience.
- M: I'm not asking about the quality of expert. I'm just talking about how important that is to you.
- R: How important it is? You have to know who they are before you can make a decision.
- R: See previous answer. [crosstalk]
- M: All right, you guys I'm going to have you tell me in your very own words, your loose definitions ... There are four words. What does polluted mean?
- R: Dirty.
- R: Dirty, gross.
- R: Undrinkable.
- R: Compromised.
- M: Say that again.
- R: Compromised.
- M: Okay. What does toxic mean?
- R: Unsafe. Poisoned.
- R: Poisoned.
- R: Poisoned.
- M: What does contaminated mean?
- Group:** Poisoned.
- M: What does impaired mean?
- R: Altered.
- R: I don't think it's relevant to this ... to water is it?
- R: It could be. Impaired but not toxic but [crosstalk].
- R: Maybe the experts are [crosstalk].
- R: Maybe you'll throw up instead of die.
- R: Not natural. [crosstalk]
- M: You guys, there are some words that may seem, that in your mind might make any effort to improve the water quality just futile. Then there's those words that make you think it's going to be really easy. I'm wondering what word is the best that strikes the balance that something needs to be done but it is feasible.
- R: Toxic.
- M: Toxic is what?
- R: Sounds like that would be too far gone, like you can't come back from that.
- M: Okay. Which of these is better to help you be engaged and still think it's feasible to improve the water?

Group A – Suburban; May 12, 2016.

- R: Contaminated is the stronger one to me. That means like Three Mile Island, right? [crosstalk] Polluted means a little less.
- R: Right. Contaminated, industry polluting the water.
- R: You think that so many water supplies have a degree of pollution, it's almost able to just look over it.
- R: Yeah. There's no perfect water, but contaminated means...
- R: Problem.
- M: So which between contaminated and polluted hits you the hardest as a word?
- R: Contaminated.
- R: Contaminated.
- M: Is contaminated water able to be improved?
- R: No.
- R: It's a possibility.
- R: I think so.
- R: Through filtering or through clean ups on the front end? Like there's a ...
- M: If you were asked to contribute to a healthy water fund because the water were polluted or because the water were contaminated, which would make you contribute or be okay with a fund or tax or fee?
- R: Contaminated is a better word.
- M: What makes contaminated better than polluted in that instance?
- R: Everything's a little polluted already, right? So contaminated is...that's Flint. So if you go to these guys and you go, "We're going to raise your taxes because the water is contaminated," then we'll probably push something like that through. This to me for some reason is focused on Delaware and all that.
- R: Yeah, but we contribute to a lot of [crosstalk]. So if you have a farm along the Susquehanna] ...
- M: Here are three words. I would like you to define them in your own words. Fund.
- R: Money.
- R: Money. Paid into ...
- M: Fee.
- R: That's a per usage.
- R: Your money.
- M: Bruce, what is fee to you?
- R: It's like an assessment.
- R: Imposed.
- M: Tax.
- R: Same thing. Tax, [inaudible] fund.
- R: Tax is a required [inaudible].
- R: So today ...
- R: Legislative.
- M: So it relates to this healthy water initiative, which of these words provides you with the most confidence that your money is going to the right spot? Tax? Fee? Or Fund?
- R: Fund.
- R: Fund.
- R: Fund.
- M: Because?
- R: It's a voluntary fund.
- M: Therefore?
- R: Hopefully it's going to the right place.
- R: It would have specialized oversight, specialized purpose but specialized oversight as well [inaudible].
- R: Voluntary verses no not voluntary.
- M: What's better about that, if anything?
- R: Gives you a choice.

Group A – Suburban; May 12, 2016.

- M:** Therefore?
- R:** It's always better to have a choice.
- R:** You can decide to do it or not do it. It's not being imposed.
- M:** Tell me what your definition of water quality is.
- R:** You're able to drink the water.
- M:** Well, it could be good or bad.
- R:** Lives up to a standard.
- R:** Where they call it the 5 [inaudible] – what you can see, smell, taste, all that stuff? That's what it would be.
- R:** It's measurement.
- M:** What does clean water mean?
- R:** Drinkable, usable.
- R:** Not polluted.
- M:** What does healthy water mean?
- R:** Aren't they all the same thing?
- R:** No.
- R:** It's basically the same thing.
- R:** Sort of, but healthy water to me is more like fish and organisms and the ecosystems working verses clean which is just like a reservoir. I don't know.
- M:** Where would you want the money to go? To a healthy water fund? To a water quality fund? [crosstalk]. Or to a clean water fund?
- R:** Clean.
- M:** Clean?
- R:** I'd say healthy.
- M:** Healthy water.
- R:** Yeah. I'd say healthy.
- M:** Do you guy want to see what a water quality fund ...
- R:** No. [crosstalk]
- M:** Oh yes. So listen up. Tell me where you want the money to go. So you want your money to go to a fund that helps clean water? Do you want the money to go to a fund that helps healthy water?
- R:** What kind of water? Drinking water?
- R:** Maybe we could start with clean water and then go to healthy water because if you don't start with clean water, you're not going to get the healthy.
- M:** So this is more actionable. Clean water?
- R:** No. It's not more ...
- R:** I think it's got a larger scope. Clean water has a larger scope. Healthy water is a smaller scope. Excuse me.
- R:** No, I'm sorry. I interrupted you. I was just saying you can visualize it more. Clean water, you can picture in your mind – clean, dirty. Healthy is a little bit more ...
- R:** I mean, this is purified water verses spring water. There's a big different. Spring water has more [crosstalk].
- M:** What is a watershed?
- R:** All around here.
- R:** Yeah. [crosstalk].
- R:** It's a collection area for rain, run-off, snow. It collects in rivers and streams. You know how it is.
- M:** You guys, no side conversations please. What is a basin?
- R:** It's a collection point.
- R:** It's the same thing as a watershed.
- R:** No. The basin is a collection point. A watershed is a flow through.
- R:** A watershed is what the water flow through.
- R:** Is a contained ... Basin is contained, watershed is more of a fluid environment.
- M:** Which one are you most likely to use in conversation?

Group A – Suburban; May 12, 2016.

- R: Watershed.
- R: Watershed.
- M: What does storm water mean?
- R: Run-off.
- R: Run-off.
- M: What does run-off mean?
- R: Same thing. They're synonymous.
- R: Run-off would be like ...
- R: From a field or ...
- R: It all goes in the storm water. All goes into your water system.
- R: Water that is not absorbed into the earth.
- M: Which one is the most likely to contain contaminants?
- R: Run-off.
- R: Run-off.
- M: What is non-point source pollution?
- R: You can't identify where it directly comes from.
- M: What is non-point source pollution?
- R: That sounds right.
- R: Yeah, like you can't tell where it came from.
- R: Qualify and quality.
- M: What is nutrients?
- R: Building blocks for health and life?
- M: What is fertilizer?
- R: Grounds so plants grow better?
- R: Usually manmade.
- R: Added nutrients.
- R: That's not always been ... When I think of fertilizer, I think of synthetic. Something synthetic, not natural. Although fish ... Synthetic. [crosstalk].
- M: You guys, what do you want to prevent? Fertilizer? Nutrients? Or non-point source pollution?
- R: Fertilizer.
- R: Fertilizer?
- M: Okay. I will see if there's more they have to ask. At any rate, the check is coming soon. If you could circulate that. {moderator leaves}
- [unrelated side conversation; moderator returns]
- M: Last question. Did your opinion of the healthy water fund change at all compared to when we first introduced the notion, now to the end of the group? Three choices. Yes, my opinion of the healthy water fund improved. My opinion of the healthy water fund declined. No change.
- R: No change.
- M: No change?
- R: No change.
- R: No change.
- R: No change.
- R: Didn't change. We'd like more information.
- R: There was no position statements about the healthy water fund. You were just taking our opinions.
- R: Yeah. Before, I didn't know this was specifically going to be focused on that. I just ... [crosstalk] change my opinion.
- R: It's a nice idea if you knew more.
- M: If you had the information you needed. If you were convinced the healthy water fund would be effective ... What would it take to convince you that the healthy water fund could be effective?

Group A – Suburban; May 12, 2016.

R: Just more information.

M: About?

R: What they're going to do. How they're going to do it. Who's going to administrate it.

M: Who do you want to administer it?

R: Anybody but the government. Some nonprofit interesting party.

R: I have money. Thank you everybody.

R: Thank you.

R: No thank you.

[END]

Group B – Agricultural; May 12, 2016.

[Introduction/ housekeeping]

Moderator: ...around here, tell me what you remember of the scene. Paint a scene for me about recreation and water, maybe what you're hearing, what you're seeing, and also, how you're feeling. Don't

Respondent: I love to go fishing, so I go out on a boat in Delaware Bay, Chesapeake Bay, fishing.

M: Sights, sounds, I need more. More texture please.

R: Sound of the waves moving against the boat, peaceful.

M: I know that you're a man [inaudible] and this isn't comfortable, but I'll just ask it. How are you feeling when you're on the water there?

R: Very relaxed.

M: Want to give it a go, Chris?

R: Sure. Mine's more hiking in the woods and finding a stream and following it and discovering things. Feeling like maybe I'm the first person to have seen that, although I know I'm not.

M: More sights and sounds?

R: Birds and leaves and different light coming in between the trees. Just discovering new adventures with it, making up a story and an adventure.

M: How are you feeling at that time?

R: Alive.

M: Barclay?

R: I love my farm. I don't have to go too far to have too much. I just love it. Change of the season, stream, the air, sky, nature.

R: Fishing or sailing in the ocean, the rolling of the boat in the waves, and I guess I'm feeling happy.

R: Hiking, camping, on the mountain bike. Out there alone like, "Cool, I'm a girl out here. Yeah."

M: "Argh, girl."

R: [crosstalk] crashing if I crush, can't jump a log, King Kong [inaudible]. Just smelling the trees and I could get attacked by something, but I'm out here, "Yeah, yeah." The dirt, and just might see a snake, birds, animals that want to expose themselves to you like, "Wow! Who's that?" I think it's like somebody from another life or something.

M: Dana?

R: Let me see. I love the beach, but I love autumn, too. I love the farm and the change of leaves and the whole thing. The air getting crisp and cool, but I love the beach with the sounds of the waves, smell of the beach, and walking the beach and finding shells and all that.

M: How are you feeling?

R: Good. The moment I head to the beach, I'm just zoned out. I'm in a different zone. Yeah, the moment I see the ocean and the water. I'm a water baby. I can't be away from it too long, because I just love it so much.

M: You guys, I do have to ...

R: Sorry.

M: We're going to punt in this group. We're going to pretend that you can see the photocopies I've made, okay?

R: Okay.

M: Okay. Here they are. [laughter] Who are you?

R: I'm Larry.

M: Hey, Larry. Come and sit down. There's food, there's coffee maybe, and please sign in.

R: What do we do with this?

M: Pass. Everybody gets one. The photocopies, please pass the photocopies along. [inaudible] Please pass these copies along. Make sure you ...

R: She didn't tell us, right?

M: Okay, so you have to imagine. We have to punt.

R: I might need a pen.

M: We had to punt. Larry, do you need a pen? Have you been to a focus group before, Larry?

R: No.

M: Okay. A focus group is kind of like a survey, kind of like a party. Do your best to hold your own. Some people are going to have opinions the same as yours, some people are going to be different. Please, no side conversations. I'm a hundred and four years old, we have to record the conversation. Otherwise, I can't take notes.

R: What is the whole meaning ... About conservation, isn't it?

Group B – Agricultural; May 12, 2016.

- M:** It's about healthy water or clean water. It's about water quality.
- R:** Okay.
- M:** I'm interested in your opinions, and you, Larry, oh, you have to put your card up so I can see it. You might agree with Chris, and Chris might disagree with Dana but agree with Elsabet, who in turn might disagree with H.G but who might agree with you, Larry. It's just to find out opinions. You don't have to give any blood or anything.
- R:** I wasn't quite sure what I was walking into here.
- M:** The electric shock comes only if you cash the check too soon. We are talking about water as it relates to childhood memories, and now I'm going to ask you to give me the grade of the water near you. A is a perfect grade, and F is a grade that would mean the waters are not at all pristine, so please give me a grade of the waters around you. Do it on your photocopy please.
- R:** You're talking about streams?
- R:** How big area are we –
- M:** Around you. I can't define anything. I have no answers, I just have questions.
- R:** What kind of radius or square miles that's around us?
- M:** Around you? I can't give an answer.
- R:** Are you talking the streams that start on my farm?
- M:** Sure. Give me a grade, A through F. A is the water's pristine around me, and F is the water is horribly polluted around me.
- R:** D.
- M:** Give me a grade. Write it down on your photocopy please, and then if you could put two at the top. How many people gave the water around them an A? One. How many people gave the water around them a B? Two. How many people gave the water around them a C? One, two, three. Is that all of them? Is that six?
- R:** No, I did D.
- M:** Oh, you did D? Okay. Explain your answers, you guys. What made you give it that grade?
- R:** I know that all the stuff that we put on our lawn and the sewer, the pollution in the air that the rain brings down to the trees, leaves, and then it rains and it comes down in the water, I know we're not living in the Rockies of Colorado where I think it's maybe fully oxygenated and everything, and I –
- M:** Other ideas of the water around you?
- R:** Where do you live?
- R:** Am I allowed to say? West Chester.
- R:** You're in the city?
- R:** Close to Westtown.
- R:** Okay, at nine twenty-six.
- M:** Anybody else want to explain the grade that they gave the water?
- R:** I had a salesman come in on our lane on the farm. He said, "You got some of the cleanest water running out of your fields. I can't believe how clean it is." I said, "The cover crop we put on last year had such good growth to it, we weren't getting any erosion out of the fields and stuff." We're at the beginning of, we have two beginning starts of the white clay in our farm.
- R:** I agree with Larry's comment, but in perspective of the entire United States, I agree with you. Colorado, that would be an A. Twelve thousand feet above the air, water starting out in [inaudible], and everything, no matter whether it hits the ocean with no population, you're going to be a C or a D. I actually graded it a C because I think our water's pretty clean for our area at our elevation, but it's not an A.
- M:** What makes it not an A?
- R:** Well, because it's travelling a good distance to get to us from where it starts and it picks up stuff. There is population and runoff and stuff like that. Although, I think the farmers in the area do a really good job of keeping it clean compared to maybe it was a hundred years ago with different farming techniques, but I don't think it could ever be an A here. I think it could be a B maybe, but it's probably just a strong C.
- M:** I have two questions now. The first half is, how sure are you about the level of water pollution, if there is any, in the waters around you, and then the second part of that question is, how much do you care about the amount of pollution in the waters near you, if at all? Dana?
- R:** I really care about the water and pollution. I live near –
- M:** How certain are you? How certain are you of the amount of pollution, if any, in the waters near you?
- R:** I would say pretty certain. They've done a lot of tests and they've told us that, like the Lenape, I live near the Lenape area, and the water looks really murky and looks pretty bad. That stream, that whole river looks

Group B – Agricultural; May 12, 2016.

- really bad. We've had water tests done, and we didn't pass one time. The whole, our little township or something, we had E. coli.
- R:** For well water?
- R:** No, just for regular public water. They sent out a emergency saying that we had E. coli in the water, and I'm like, "Oh my gosh." So now the water at home looks good. I don't drink it though, [inaudible] so I don't drink it. I do purification or ... I hate to say, I do bottled but after that scare I was like, "Oh my gosh." The streams look pretty murky around us. I feel like in certain areas it's better than other, but I think the Lenape area just ... Yeah, I give it a C.
- M:** I know you had you water tested. Somebody else give me, tell me how certain you are, not of your knowledge, about the amount of water pollution in your area, if there is any. Then also tell me how much you care.
- R:** I'm very certain. Go ahead.
- R:** Well, you got the Octoraro Reservoir up there, and the water –
- M:** The which reservoir?
- R:** The Octoraro Reservoir –
- M:** Okay.
- R:** – which supplies water to Chester, Philly, different townships along the way, and the water's not fit to drink. They get most of the water from the Susquehanna to put in the pipeline because there's so much pollution in the reservoir.
- M:** How did you learn that? How did you find that out?
- R:** Different people have told me. A year ago there was actually foam on top of the reservoir during the winter from pollution getting runoff from farmers.
- M:** How much do you care about the level of pollution in the waters now?
- R:** I care.
- M:** Okay.
- R:** That's going to be the biggest thing in years to come. Clean water.
- M:** What makes you say that?
- R:** The build-up and everything, it just ...
- M:** What build-up?
- R:** Houses and stuff.
- M:** Okay. Silly question...
- R:** Look at the stuff we put on the roads just to get rid of the ice and snow. Tons and tons. We used to use a cinder salt mix. Now it's all straight salt. Let's dump as much salt on it as we can.
- R:** Where do you live again [inaudible]?
- R:** Chatham.
- R:** Chatham? Oh, okay. Oxford, is that by Oxford?
- R:** It's just up the road from here. On the other side of West Grove.
- R:** It's off of forty one versus Oxford's off of route one.
- R:** Oh, okay.
- M:** You guys, what pollutes the water? Why is the water polluted? Who are the probable, responsible parties for water pollution around here?
- R:** All right, you've got to go one at a time here.
- M:** Yes, sir.
- R:** What's the first question? Who ...
- M:** What makes the water polluted? Who is to blame for making it dirty and polluted?
- R:** I think industry for where I live. Industry and ... Yeah.
- R:** We all contribute to it to a percentage point.
- R:** People and their lifestyles. They have to have the greenest lawn, and they have all the chemicals in that lawn to keep it that shade of green. When it rains, that just goes back into the well water.
- R:** I think each group that knows their area does well, but it's the groups that don't know. I think the general public, whether it's their grass, whether it's the roads we were talking about, that is probably the biggest pollution versus groups that care and are responsible and make improvements.
- M:** Other guesses or other sources you want to identify? What is responsible, who is responsible?
- R:** Sewage. Even animal sewage.

Group B – Agricultural; May 12, 2016.

- R: Livestock.
- R: Public –
- R: They poop out and then it goes in the ground.
- R: Public sewer. Last time we had a hurricane come through and flooded out Hershey, they shut their sewer plant down for seven days and dumped it right in the Susquehanna.
- M: Okay. I have some more questions here, so, you guys included, I'll read this list out loud again. You guys mentioned industry, I'm going to call it industry, big industry or industry. Larry, you mentioned each of us. Elsabet ...
- R: You can call me Elsa.
- M: ... you mentioned green lawns and fertilizers. Someone else mentioned roads, sewage, animals and livestock, and the public sewer. How responsible or not are water treatment plants?
- R: I think their intent is very responsible, but I think that quantity going through there is impossible to handle.
- M: You guys, I come from farmers in Illinois, so I'm going to ask the question to the farmers in here, knowing that I'm asking them on myself. Is there a type of farming that pollutes more than others? Is there a type of farming that doesn't add to the pollution at all?
- R: There's absolutely a difference. No-till cover crop farming system is vastly better than an old traditional full tillage system in my opinion. I think that we in Chester County have come a long, long way in improving water runoff compared to fifty years ago. It's dramatically improved. It's not perfect, there are still some farmers that do it the old-fashioned way, but by and large it's drastically improved and no-till and cover crop rotation, it's a ...
- M: Is there a type of farming that contributes a lot to the pollution, and is there a type of farming that does a pretty good job of keeping the water clean? [inaudible]
- R: It depends on the operator ...
- M: Keep going.
- R: ... of the farm.
- M: And?
- R: How he handles his waste product or byproduct. I'm a dairy farmer. I have manure. This is way that I would handle it. When I would spread and stuff and which fields I pick to spread it, part of this goes back to the soil conservation people not designing the manure storage systems big enough to handle the manure load. When my manure system was designed, NCRS came out and designed it all for us.
- M: Who came out?
- R: National Resource came out, designed the whole thing. It was supposed to be able to hold a hundred and fifty cows for eight months. I have a hundred and twenty-five cows, now you're holding it for five months, so that makes it ... I might have to spread it on snow.
- M: Oh. There's certain types of farming that contribute more or less to water pollution?
- R: I would say animal waste would be the worst, and hay, continuous hay would be the best.
- M: Barclay?
- R: I don't point fingers, I just tend to myself. Animal agriculture and ... I've had a conservation plan since 1969, followed all the manure management plans. Matter of fact, right now, Stroud Water up here, are you familiar with Stroud Water up at ...
- M: Sorry.
- R: ... Spencer Road?
- M: No.
- R: They're doing probably a landmark research project on my farm where they have a weir, have remote samplers or whatever in there, and information goes back. They have ways of catching the water in little buckets, and they're measuring it. They want to look at cryptosporidium. My water goes in and white clay goes down to Newark. Stanton's where I think they have their processing plant. Their main concern is actually cryptosporidium and I think it's called [inaudible]. Those two organisms, they're a protozoa and they're hard to take out. It's not a cheap process, so I'm not pointing a finger at anybody. I know that I deal ...
- M: I'm just concerned ...
- R: ... on the animal side, I go by plans. I've got more eyes on me now than I've ever had in my lifetime. I'm dealing with Stroud, I'm dealing with the Conservation District. I'm telling you, they can come into my place. I don't care whether it's Sunday afternoon, raining or whenever, they can come. There it is.
- M: Barclay, I'm not –
- R: I don't care. I don't have anything to hide.

Group B – Agricultural; May 12, 2016.

- M:** Hey, Barclay. Excuse me, Barclay. I don't need to know about your farm, you don't need to tell me about that. I'm just wondering if there's a type of farming or particular crop that's more harmful or it has a potential to be more harmful than others.
- R:** Like I say, I'm not going to point a finger at anybody. I'll just deal with myself.
- M:** No, I'm not asking you to point the finger. I'm asking –
- R:** I can't tell you about somebody else's work. [inaudible] I'm telling you I'm doing the best I can with what I've got.
- M:** Yes, sir.
- R:** I'm a farmer with animals ...
- M:** Yes, sir.
- R:** ... and crops.
- M:** I don't need any names. I'm just wondering if there is, in general, without pointing a finger at anyone, do you have a better chance of contributing to clean water with tilled fields, or do you have a better chance of contributing to clean water with animal products? Which farming type?
- R:** It's like Don said about the cover crop, the no-till, but still with no-till, you've got to use some kind of spray to kill that crop down.
- M:** Okay, thank you.
- R:** They still got to use some kind of chemical I would say. Something's got to kill.
- M:** You guys, would it ever even be possible? Nobody gave it an A. Is it impossible to clean up the water or is it still possible or is it easy to clean up the water around here? Is there something anybody should still try?
- R:** I think it's possible. We just have to keep up with what we're using. I go back with whoever said the input is greater than what can sanitize it. Our plants that we're using is not ... The population has grown around here and is still growing and everywhere.
- M:** Is it possible to clean up the water or not?
- R:** Yeah, if we upgrade.
- M:** Dana, is it possible to clean up the water or not? Is it even something we should try to do or is it hopeless?
- R:** We should try to do it, yeah. For not just my generation but the children and the next generation still to come because we don't ... I think we're going to be looking at bigger problems, and I think that we need to address that.
- R:** You're never going to get it perfect because erosion is a natural thing that happens automatically.
- M:** Right.
- R:** When you get seven inches of water, I don't care if it's a corn field or a sog field, you're going to have erosion.
- M:** Okay. Is it worth the effort to try and clean the water or not? Is it a lost cause or is it still worth some attention?
- R:** It's worth trying to keep improving it all the time, yes.
- M:** What makes it worth it for you, Larry, to keep trying to improve it?
- R:** Lot of people don't realize I'm just a caretaker on this farm till the next generation takes over. I want to leave it better than when I found it. My son's going to be the fifth generation on the same piece of ground.
- R:** I think that it is worth it. I think it can improve, and I think that if you look at this general area from fifty years ago to today, we probably have cleaner water today than we did before, even with the increase of development and residents and industry and business. I know mushrooms were a big pollutant years ago and now they are not, partly because of working with these conservation plans where all the water stays within the property and handled, as opposed to in a big storm runoff. I know we've made improvements as an industry and I think other industries are doing the same, so yeah, it's worth it and it can be done.
- R:** Big improvements in the last seventy-five years, I think. My dad said you could not swim in the Brandywine when he was a kid. You got sick if you did, earaches. Now you can't drink it, but it's a lot cleaner. It's got a long way to go because a lot of effluent gets dumped in legally. They clean it as best they can and then dump it in. There are, I know, better systems out there but they're expensive. New technology that some people are not willing to try, townships, and because of opposition that I think work.
- M:** Who should have a role in addressing water pollution? Who should have a role?
- R:** Everyone should address it on a daily basis. I think at home if you do it, and on farms, we might have a greater responsibility just because of the amount of land we have or what we have for future generations like you said. I think it's just, yeah.
- M:** Each of us has a role. What are the sources of pollution around here? I heard about development.
- R:** Farms.

Group B – Agricultural; May 12, 2016.

- M:** Farms.
- R:** Livestock farms are pretty ...
- R:** Traffic.
- M:** In terms of entities, is it private citizens, is it the government, is it organizations? Who could have a role in cleaning up the water? Who would you turn to to help clean up the water?
- R:** If you look at Chester County, it has almost six hundred thousand residents but probably fifty thousand businesses. It's easier to approach the businesses to start their clean-up first or to do the best they can, best practices, but then you still have six hundred thousand residents. That's a harder ask. Although, I think that's the next step is each person should be able to know whether they're contributing to it or whether they're helping.
- M:** Local industry and each of us?
- R:** Yes.
- M:** Okay. Who else has a role in cleaning water? Don?
- R:** I'll say property owners. If you own a property, you've got runoff running off of that property. We should all take our part in making sure that water is as clean as it can be running off.
- M:** You guys mentioned local industry. Are there any not-for-profit organizations that could have a role in cleaning up water?
- R:** You have hospitals.
- M:** Okay.
- R:** They're for profit.
- R:** Yeah, they're for profit.
- R:** Oh.
- M:** It depends. You know what? I forgot to mention there are no wrong answers in here, so whatever she says goes or whatever you say goes. Whatever you say goes.
- R:** Shoot me down.
- M:** Okay, so whatever you say goes.
- R:** All right.
- M:** Who else could have a role in improving water quality?
- R:** Schools.
- M:** Schools?
- R:** Golf courses.
- M:** Okay, golf courses.
- R:** Lot of chemicals, lot of fertilizer.
- M:** Who else could have a role in terms of, I don't know. Are there non-profit organizations, is it better with the township government? Is it better with the state government? Is it better with the federal government? Is it, I heard ...
- R:** I'd say a local conservation organization.
- M:** Such as?
- R:** Chester County Conservation District, Brandywine Conservancy and Natural Lands Trust. They've all played a role in water quality positively, I think.
- M:** What role did they play?
- R:** Land preservation.
- M:** What did they do? How did you get, from the name, how did they help? Tell me what they did.
- R:** The Chester County Conservation District, for example, will come to your farm and help you write a conservation plan which will minimize soil loss and keep the water running off your property as clean as possible. They actively do that now, and they do a good job.
- M:** Their role is almost education and implementation kind of?
- R:** Yes.
- R:** Yeah.
- R:** It's knowing the whole area, knowing where the biggest problems are, going and working hand in hand with each resident or farm, and building a best practices, improvements. "Hey, here's the top ten things you can do to improve it."
- M:** What about the township? What is the role of a township?

Group B – Agricultural; May 12, 2016.

- R:** My township actually is, they're buying the land up and we use it as parks. When someone has a huge thing of land, they put it into trust or parks, and they don't build on it or give it to the farmers.
- M:** What is their role? What do they do?
- R:** Restricting development.
- R:** They're restricting the development of my township.
- M:** Okay.
- R:** It's beautiful. It's so hard because we have that catch twenty two. It's beautiful and we're having more land and we're having parks where people can go –
- M:** You guys, what role should the state government play in improving water quality?
- R:** It's mandated. I don't know if it goes down or goes up. It comes down, the EPA Clean Water Act, you've got a Clean Water Act in Washington. I don't know what, '73? You've got some kind of Clean Water Act in Pennsylvania's around '68, '72, in that time period, so it's the law. That's what's going on right now. The EPA comes down to State DEP and they give them guidelines. They've got to meet these guidelines by a certain year, whether it be 2025, total daily maximum load. Comes right down to township. Township has the mandate too. They have the MS4, and they also are very involved in reduction of total daily maximum load. It's a mandate, and it just continues on down. Now you have these groups that are working with the state, everybody is working together. Conservation District, if you sell your development rates, you have to maintain an integrity of the environment. Did that answer? I didn't want to talk too long.
- R:** Part of it, should the state be involved? Should it be local, should it be state, or should it be US?
- R:** Well, you've got the state law. There's a state law, you've got to meet it. That's why you've got the problems in the Chesapeake. They're mandated into the state. You know if you're keeping up with it, State of Pennsylvania sent out, Penn State sent it out to farmers in the area, in the Susquehanna, to put down their practices because a lot of practices are implemented beyond the NRCS or the Conservation District. They're individually done, so you have to know this, so they can go back to the DEP.
- M:** Excuse me, Barclay. Then I'm going to understand that there are federal, state, and township governmental organizations that set standards and monitor?
- R:** The mandate comes down because I know what I'm talking about because I was on the board of supervisors here. The mandate comes down and there are zoning officers, but the darn thing went out of my mind. Just was going to say, dog gone it. Oh, but we have ordinances in our townships. We have a natural resource ordinance, the number of trees, the steep slopes, whether you can cut them. We have a storm water ordinance which it was the state ordinance. I think it's one sixty-seven, it was all mandated. The conservation district [crosstalk] –
- M:** Barclay?
- R:** We have laws.
- M:** Barclay, so then, thank you for describing what's happening. I'm wondering if it's the role of the government or not to impose standards and laws.
- R:** The government takes care of the health, safety, and welfare of the people. That's why we have township supervisors, we have to maintain the health, safety, and welfare of the people. Those words, you have the right to farm as long as you don't affect the health, safety, and welfare of the people, that's what we've got to be concerned with.
- R:** I'll counter that a little bit. I'm not disagreeing with you at all. we do have these regulations, but I think that voluntary landowner initiated things have done a whole lot more than state mandates as far as cleaning up our water.
- R:** That's what we're going to try and find out through the state –
- R:** Exactly.
- R:** – survey.
- R:** I think it's the case.
- R:** I hope it is.
- R:** I'm just speaking for myself.
- R:** Yeah.
- R:** All the practices that I've done on our farms that we farm weren't mandated. The things I've done weren't mandated by anybody.
- R:** They probably don't know them up at NRCS.
- R:** Nobody really noticed that we did them ...
- R:** You're not documenting.
- R:** ... but we did them, and we've ...

Group B – Agricultural; May 12, 2016.

- M:** You guys are way smart. You guys have a professional understanding.
- R:** We've got to. We can't run a farm without it, you just can't run it.
- M:** What do you think your neighbors know? What do you think –
- R:** They look at us. They've got a perception ...
- M:** What do you think –
- R:** ... and then they see us.
- M:** What do you think the neighbors know about water pollution or who's responsible for water pollution? What does a layperson know about water pollution? What does a layperson understand?
- R:** What people have told me is that they assumed I was a polluter. They assumed that I wasn't doing the right things because of how large our operation is, but when they came in and got a tour, they realized that we were actually good stewards. I think that the perception is that because an industry is big, a building's big, a shopping center's big, that the assumption is that it's doing harm, but then some places do good and some places don't. The perception is that many businesses don't contribute to the health and welfare to clean water.
- M:** You guys know what each of you can do individually at home. You guys do it. What do you think most people know about what they can do at home? Do you think most people are well educated about how to prevent water pollution from their own daily life, or do you think most people don't know a thing about how to use water pollution ... Excuse me. Anybody else?
- R:** They say don't flush medications down the toilet, or when you live in the city, you don't take your oil from your car, which I've seen in Philadelphia, and pour it in the sewer. It's those kind of things that you know. Maybe-
- R:** We have a little thing in my local bill when the water comes out now and it tells you, it has a little guideline, "Don't flush the medications down," "Don't put oil down," don't do this and that. I think most of my neighbors know about water conservation and different things for general –. like my block or where I'm from, they seem to know about this a little bit.
- M:** If you guys were going to volunteer, do you know which organization you would go to, if any? If you were going to volunteer to help improve the water in a non-professional way, in the private citizen way, is there an organization that you could think of?
- R:** My town is so active now. They caught somebody up north, a guy dumping barrels. Barclay was talking about their laws and legislation, and he got a really bad thing. I don't know what the whole thing was, but he got in really big trouble. He got a fine, I don't know if he got a prison sentence.
- M:** How did you know about that?
- R:** Somebody told me about it because they were talking about it. He had dumped way up north, above West Chester, Downingtown, and he got in huge trouble. I think that sent a ripple to anybody else who's doing that.
- M:** Elsabet, if you wanted to volunteer for an organization to help improve the water quality, would you know where to do it near you?
- R:** Mm-mm (negative).
- M:** How would you search for it, do you think?
- R:** Internet.
- M:** Okay. What search terms would you put in that?
- R:** Clean water, environmental protection agency, I guess.
- M:** Okay. How about your willingness to volunteer or be able to find something?
- R:** I'm very willing. It kills me when I see that they dump all this oil in the ocean and then the ducks are showing up dead and the fish, not necessarily in this area, but it's equivalent. When you can go fishing but people say you can't eat that fish that you just got out of the water around here or that you see. I take my son fishing, he can't ...
- M:** That's what happens with water pollution, but I was wondering if you knew where to go to volunteer. Also, you guys, that was the retail part of do you know what's happening or do you think your neighbors know how to prevent water pollution. You guys are farmers. It sounds like all of you have really good practices. What do you think, how much do other farmers know or not know, or how much do other farmers pollute or not pollute water?
- R:** We've all been forced to change. Pennsylvania, you're required to have a conservation plan on every farm now I believe, isn't it?
- R:** Mm-hmm (affirmative). I think so.
- R:** If you have livestock, you have to have a nutrient management plan also, where you're putting that manure.

Group B – Agricultural; May 12, 2016.

- M:** Would you say that where you can see, I'm not asking you to give names or anything like that. Would you say that where you can see the other farms around you, are they improving their water quality? Is it staying the same or is it getting worse?
- R:** They're improving it.
- M:** What makes you say that?
- R:** It costs money to haul manure. If you can get less manure or get your manure separated where you're not hauling as much at one time...
- M:** You've seen people with smaller loads or something? I don't ...
- R:** You're seeing manure as a enemy. Manure is a fertilizer.
- M:** Oh yes. Okay.
- R:** It's saving us money being able to put on the fields, so we want to put it on properly to get the most for our money.
- M:** H.G. ...
- R:** Running down the creek, we don't get any money.
- M:** H.G., thinking of the farmers around you, without giving names or anything, do you think that the farmers around you now, when it comes to water pollution, are polluting more than they did in the past, the same, or less?
- R:** There's not many farms around me, but I do a lot business in Lancaster County, and I know they are notoriously bad there. It definitely has improved, they're keeping livestock out of waterways which they didn't do before. I'm talking mostly of the Amish. Planting trees along the streams and those kinds of things are [inaudible]. That's really helping.
- M:** Barclay, did you want to answer this question, or do you prefer not to?
- R:** Ask it to me again so I know.
- M:** Sure. Based on the farms that you can see near you, do you think that those farmers are paying more attention, less attention, or the same amount of attention?
- R:** More. More attention.
- M:** What makes you say that?
- R:** They're great farmers, and they're in the business to stay. They invest a lot of money, and like Larry was saying, you can't afford to be a bad steward of the land. You can't afford to pollute because if you were to be caught polluting it, you could get a fine leveled on you that you may never be able to pay.
- M:** Chris, are you a farmer?
- R:** Yes.
- M:** Same question. Farmers around –
- R:** Yeah, everyone is improving, I see improvement. I see one thing that your neighbors that aren't farmers are looking at you. I want to be a good steward, and everyone wants to be a good steward, so that's forcing us to improve, but in addition, there's also been some grant money around in the last two decades and that's helped encourage us to get it done.
- M:** What grant money was it?
- R:** There's been grant money through a couple state funds. There's [inaudible] money, there's matching funds with ...
- R:** EQIP [phonetic].
- R:** EQIP, thank you. That's the word I was looking for.
- R:** CREP, too.
- R:** CREP, EQIP.
- R:** If I had a fifty thousand dollar project to improve, they might pay for twenty thousand dollars of it.
- M:** Is that a private organization or public, is it...?
- R:** It's public. It's state funded money.
- M:** Then there's a role for the private citizen which is to be as educated as you can and to do the right thing. There's a role for government which is to monitor, legislate, and perhaps fund. What about townships? You mentioned that they enforce. What other roles do these government non-for-profit, Ducks Unlimited or the NRA or EPA, what other roles are there? This fund stuff is new.
- R:** The fund stuff's old.
- M:** Okay.
- R:** It's been around for a long –
- R:** It's going away.

Group B – Agricultural; May 12, 2016.

- M:** New to this conversation I'm saying.
- R:** It's right. They pay for our manure storage.
- M:** Okay.
- R:** There are new players out. I was funded by United Water.
- R:** We were funded by White Clay Creek.
- R:** White Clay Water Association, City of Newark, you've got more players coming into the game now. They're willing to put some money up because it's better. I think they're going to find out to stop the pollution at the source rather than take it out at the plant, so you're going to have more players. You're saying Ducks Unlimited and all of these, I'm sure they're providing funds or have a watch group.
- R:** I think there's also, isn't there ... In our town, I can only speak for where I am. There's also farmers that are selling off their land so to speak, but I think there's also funds for them to try to stay in. Up above me past Downingtown and everything, there's a fund I think to keep the farmers to keep their farms and not sell off to the new developments. I'm from the Chester County area, but every piece of land is going for every house. It is making money, and we just keep growing, growing, growing throughout. Our township is the next township over, so they're trying to buy the land so that they won't have the farms or the houses.
- M:** Larry, where does your drinking water come from?
- R:** Well by the house.
- M:** Elsabet, where does your drinking water come from?
- R:** I guess the city of West Chester.
- R:** I'm city water, yeah.
- R:** I have a spring. We drink spring water.
- R:** My house is city water, and my farm is well water.
- R:** Well water on the farm.
- R:** Well.
- M:** For those –
- R:** I have a question.
- M:** Yes, sir.
- R:** Are the cookies from Talulah's, too?
- M:** The cookies are from the people who have the label on.
- R:** Yeah, so that's Talulah's.
- R:** Yeah, Talulah's.
- R:** They're good?
- R:** Okay. I'll have one then.
- M:** The cookies are from Turkey & Gouda.
- R:** No, that's ... Oh yeah.
- R:** That's still on the table.
- M:** Just teasing a little bit. Okay. Where does the water come from that comes through the town? What is the source of the water that comes through the city?
- R:** Mine's Aqua, and Aqua will alert you if you have problems or whatever. Lately, they're sticking things in, inserts in –
- M:** Where does that water come from?
- R:** I actually don't know.
- R:** An underground ... It's probably the same well that's coming ... Underground rivers?
- R:** I think in West Chester it's coming from a reservoir somewhere.
- M:** Okay.
- R:** In Delaware, you get it out of the ground.
- R:** Right. Chester water's from aquifer and well water.
- R:** Oh, it is? Okay.
- M:** You've had you water tested. When did you have your water tested, Larry?
- R:** Probably about ten years ago.
- M:** You had you water tested?
- R:** I had my water tested because I just thought there is marks in the tub and different things. I didn't like what I was seeing, different colors, makes the tub green. They told me that I have really hard water, so I stopped

Group B – Agricultural; May 12, 2016.

- drinking it. They said it has a lot of chlorine in it, and I didn't want the chlorine. I heard it causes cancer or something, so I –
- R:** Dementia?
- R:** Yeah. [crosstalk]
- M:** Elsabet, have you ever had your water tested?
- R:** No.
- M:** Don?
- R:** Yes. We test it four times a year with all the new food safety regulations.
- R:** What test?
- R:** Not for a while.
- M:** Tell me, let's see, if this –
- R:** Everybody here is drinking bottled water, and a large majority of this comes out of water treatment plants.
- R:** Mm-hmm (affirmative).
- R:** A lot of the blue bottled water, this is saying this is purified water that consists [crosstalk]
- R:** Run by Coca Cola.
- R:** Yeah. It's ...
- R:** Yeah, filled with –
- R:** It's right out of your faucet.
- R:** Yeah, I drink the spring water. I hate to say it, I don't buy the purified water.
- R:** They have really good filters at [crosstalk].
- R:** Yeah, they do.
- R:** It's surprising when you see spring water or something and you read from it, "Water treatment plant in Wayne."
- R:** Yeah.
- M:** Larry, do you drink water out of the tap unfiltered? Do you drink filtered water out of your taps?
- R:** I drink it straight out of the tap.
- M:** Elsabet, what do you do?
- R:** Right out of the tap.
- R:** No. Bottled or purified water. We have a system.
- M:** It's filtered?
- R:** It's highly filtered.
- R:** We have a filter on ours. We drink it.
- R:** Straight out of the tap.
- R:** Straight out of the tap. Out of the tap.
- R:** My father-in-law's ninety years old. He used to drink water out of a lead pipe from a spring for many years.
- R:** We'll forget you said that.
- R:** Moving on.
- M:** You guys are pretty good stewards of the land, but I still have to ask, would you be willing to have some money come out of your pocket to improve water quality? Would it be worth it to you to pay money out of your own pocket to see the waters around here cleaned up?
- R:** Yes. Oh, I'm sorry. I mean yes. I have a cookie.
- M:** Don?
- R:** Yes, I do that regularly. Yeah, I do some of this cost share stuff, but there's money comes out of my pocket at the same time.
- R:** Already.
- M:** Okay.
- R:** Yeah.
- R:** Yes, it comes out. A portion.
- R:** Yeah, but you're saying, you say as a taxpayer are we ...
- R:** More money.
- R:** Are we willing?
- R:** Yeah.

Group B – Agricultural; May 12, 2016.

- M:** Would you be willing, would it be worth it to you to pay money, in parentheses, more money, would it be worth it to you to pay more money out of your pocket to see the waters around here cleaned up?
- R:** I say yes on top of that, what I said yes, but it's because ...
- M:** Thank you, Dana.
- R:** ... I don't want it to get worse. I have to explain it to you. I think there's sometimes a point of no return. I think we've used all the filters we want at home and all, different things, but I want to have the best possible water for the next generation and the next generation when I pass everything on. I don't want it to be where we may not be able to drink the water or something.
- M:** Chris? More money out your pocket?
- R:** My answer is that I've already spent a lot of money to do it.
- M:** Your answer's no. Barclay, more money out of your pocket?
- R:** I can't answer that right at the moment. I –
- M:** H.G.?
- R:** Yes.
- M:** Yes?
- R:** We've got to be very careful that we don't let the government overreact on the water quality, too, because there is only so much farm ground in this area. If you put your buffers way too wide, you're losing too much farm ground and you still have to pay tax on that, so you've got the money coming out of our pockets. There is tools we can use, but we have to use our brains also when we implement the stuff.
- R:** Mm-hmm (affirmative). What he said. [laughter]
- M:** Elsabet, would it be worth it to you to pay more money out of your pocket to see waters around here cleaned up?
- R:** Yeah, and I agree with what he says because people overreact and the government thinks they know best, but they didn't consult with everybody to really go in the right direction.
- M:** Where should that money ... Yes, Larry?
- R:** The most time you see the government getting in something and they go way too far, and then five years from now they back off the stuff. If you can take that first five years or so, you're all right, but ...
- M:** How would you feel if something was committed to this purpose out of your township or your municipality's budget? Do you guys have to, I'm asking because I really don't know. Do you guys have to pay taxes to a township or a municipality?
- R:** Oh, yeah.
- R:** Yeah.
- R:** Yeah.
- M:** Okay. How would you feel if somebody was committed to cleaning up the waters around here if they came out of your township or municipality's budget?
- R:** Already does.
- R:** Yeah.
- M:** More.
- R:** Our township is ...
- R:** It does. Our zoning officer has a mandate.
- M:** How would you feel if more money were to be allocated out of your town?
- R:** I'm kind of worried, I guess. We had low township taxes and we almost quadrupled this year. I was kind of freaked out, and I'm going to go to one of the meetings and see what's going on, but I was like, "What is going on here?" I think it's partially because of what they're trying to do with the water. We have a lot of, not a lot of public sewer. It's all pretty much private or cesspool where I live, so they're trying to convert them, but I feel like we're ... I don't know. My township, whatever happened this year, it's like, "Whoa." Used to be very reasonable and to double or triple, I'm like, "Whoa." I don't want to catch up to school taxes or all that.
- R:** You're also were [inaudible] you township, you're getting a lot of parks and stuff, turning farms into ... When that farm comes into a park, you're not getting any tax money from that farm.
- R:** [crosstalk] Right. I think most of the places is just open space.
- R:** Do you want interaction on this or you want to stay away?
- M:** I'm going to cut.
- R:** We're not taking farms. I haven't seen only one place actually.
- M:** Thank you.
- R:** Stroud Reserve?

Group B – Agricultural; May 12, 2016.

- R: I'm not trying to stop.
- R: Whatever piece of land.
- R: I didn't [crosstalk]
- M: You guys, I have another question. Thank you. I'm sorry. What if your water bill were added to a bit every month or every quarter or every something?
- R: That's inevitable ... It's going to happen.
- R: I don't have a water bill.
- R: I have a water bill.
- R: Electricity is my water bill.
- R: I have a water bill.
- R: I pay a lot of taxes, and I don't want taxes to go up.
- R: No.
- R: I would be happy if the township chipped into our water quality, but I don't want that to be an increase in taxes.
- M: Explain your answer some more.
- R: You asked if the township should play a part in spending money to improve water quality, something like that.
- M: Yes, sir.
- R: I'm okay with that, but give a township a project like that, the first thing they're going to do is raise taxes.
- R: Find it in the budget you're saying, find it in the budget.
- R: Yeah, find it in the budget.
- R: Yeah, find it in the budget. We don't need the federal government and the state government and the county and the townships all doing different things for water quality. I don't think townships need to play a big role in it.
- R: We're fighting our township right now because they're going to demand before we can get a building permit that we bring all our stream buffers up to par.
- M: Aside from stream buffers, are there other places you can focus?
- R: They're working on the stream buffers right now.
- M: Okay. I suppose.
- R: They want trees.
- R: They want trees?
- R: They want trees.
- R: What township are you in?
- R: London Grove.
- R: London Grove.
- M: You guys, on your photocopy, please write down the dollar amount from zero to seven million dollars. Please write down the dollar amount you'd be willing to pay monthly or annually or quarterly. Give me the dollar amount and give me the frequency. It could be zero every day or it could be a million dollars every day, please write down how much you'd be willing to pay on a monthly, quarterly, or annual basis in addition to what you're paying now that would improve the waters around here.
- R: As a homeowner, resident, or as a business?
- R: A farmer?
- M: As yourself.
- R: As a farmer or as a ...
- M: As yourself.
- R: You're saying in addition to what we're currently paying.
- M: It could be zero, could be seven million, it could be ...
- R: To anybody, not a specific ...
- M: Correct.
- R: Okay.
- M: To you specifically.
- R: I know, but to some organization? Not necessarily the government but maybe the government?
- M: Yes, like that.

Group B – Agricultural; May 12, 2016.

- R: Okay.
- M: That's it. Assuming the money was going to go in the right place.
- R: I'm not sure.
- R: Do we know who? No.
- M: No, just how much money.
- R: Okay. Just [crosstalk] it out.
- M: How much money would you be willing to pay daily, weekly, monthly, quarterly, annually?
- R: Okay, got it.
- M: In addition to what you're currently paying? Elsabet, what did you say?
- R: Ten dollars per month.
- M: Okay, Chris?
- R: I wrote from me personally zero dollars, and for my farm a hundred dollars a month.
- M: What prompts you to pay an additional hundred bucks a month for your farm?
- R: To be a good steward of the community.
- M: Barclay?
- R: Zero.
- R: A hundred if it was a private organization, zero if it was the government.
- M: Tell me the difference there.
- R: Our local government, our township, specifically, I don't trust at all.
- M: Because?
- R: The supervisors are untrustworthy people.
- M: Without giving names or getting shot at, what makes you say that they're untrustworthy, what have they done?
- R: They've made poor choices.
- M: In?
- R: In our township, in my mind, against conservation.
- M: Okay.
- R: They are trying to claim it's for conservation, but I know enough to know that it's not what it's about.
- M: What were they funding that you were opposed to?
- R: They were fighting cluster housing developments.
- M: Oh, okay. All right, got it. Larry, how much per month?
- R: Zero.
- M: Zero? Dana?
- R: I have seventy-five to a hundred and twenty-five a quarter. Every three months I'd be willing to kick in.
- M: What makes you say that?
- R: I care a lot, so I really think that it's like I'm doing my part, and if everybody did it down in my township, we might be able to come up with an amount or number that we could put up. I want the township to kick in from our own budget but also feel like I could help do something.
- M: How much confidence would you have? It seems like you vary in confidence. One in the government and one in private organization. If the right entity, how much confidence would you have that your hundred and twenty-five bucks a quarter or a hundred bucks a month, how much confidence would you have that that would actually produce cleaner water?
- R: I want to see it. I want to have either community [crosstalk]
- M: No, how much confidence do you have, now, at this time? A hundred and twenty-five bucks just left your pocket, how much confidence do you have that it's going to help?
- R: Fifty percent.
- M: Okay. Larry, no money left. Ten bucks ...
- R: I would have better confidence in the private organization versus the government.
- M: Such as?
- R: I don't know.
- R: Just trying to help.
- R: Whatever would take this cause by the reins and make it their purpose and really ...
- M: What kind of organization?

Group B – Agricultural; May 12, 2016.

- R: I don't know if it exists. I don't ...
- R: It does.
- R: Oh yeah, there's some businesses.
- R: Oh, you know?
- R: Stroud.
- R: There are some of the places. Stroud?
- R: Okay.
- M: What's Stroud?
- R: It's probably World ...
- R: Stroud Water Research.
- R: Stroud Water Research. They're ...
- R: Right in our back door.
- R: ... best in the world.
- M: They would ...
- R: They do research on all kinds of water problems around the world. It's located right here.
- M: If money went to them, would you trust them?
- R: Absolutely.
- R: I saw [crosstalk] in the one and just put the money in.
- R: [crosstalk] They just did a reserve. I'm five minutes or ten minutes from the Stroud Reserve.
- M: You guys, no side conversations please. I'm sorry.
- R: Excuse me.
- M: It's hard to remember everything especially when you're a hundred and four like me. We're being recorded, my transcriptionist will shoot me. Okay, so you would have confidence if Stroud had it.
- R: Or the Brandywine Conservancy.
- M: Or Brandywine Conservancy?
- R: Mm-hmm (affirmative).
- M: Barclay, who would you trust with –
- R: Stroud. I trust them right now, I'm working with them.
- M: Chris?
- R: Stroud and Brandywine Conservancy and the Conservation District of Chester County.
- R: Chester County Conservation District or Stroud. I'd go with both of them.
- R: Both of those, yeah.
- M: Elsabet?
- R: I would take, I have no opinion but ...
- M: Okay.
- R: I have no opinion, I have no experience.
- M: Larry?
- R: Conservation District.
- M: Okay, so no township. What about the state? What about UPenn? What about State College? What about MIT? Is there another private or public organization?
- R: No one size fits all, so the broader it gets like with the state, then they don't know the community, they don't know all the interaction and players, so you can't put it on to one page sheet of paper.
- M: But, Chris, this is an example, but the water pollution doesn't happen here, it happens over there, how are you going to ...
- R: I think the state's involvement should be more of the worst offenders should then be put before the state's regulations, but the improvements should be focused from the local community.
- M: Catch those bad guys, I want my money here.
- R: Make them pay the fines.
- R: Right.
- R: Like this person had to pay fines.
- R: Yeah.

Group B – Agricultural; May 12, 2016.

- R:** The federal government is starting to mandate. They're trying to tell the whole United States how to treat it all the same. Right now we're trying to fight it.
- R:** That's [crosstalk], right? That can't be every state's –
- R:** Every waterway, yeah.
- M:** You guys, read through this.
- R:** Okay.
- R:** Every waterway, every ditch is going to be coming.
- M:** Read through this, and I will be right back to see if I've forgotten any questions. [moderator leaves]
- R:** Thanks. Do we have to stop?
- R:** Pause here.
- R:** Do we have to answer or don't we? Has anybody heard of this Brandywine-Christina? No? I didn't know if it was, I didn't hear this.
- R:** I think it's –
- R:** Says proposed funding.
- R:** Yeah.
- R:** Oh, okay.
- R:** This is where they're taking all our research.
- R:** Along with your township. I don't know anything about it, but what occurred sometime back here was a devaluation. Houses, they went and appealed to their assessments and it lowered your tax base in your township. Sometimes townships have been able to have funds that they've been able to take it out or they budgeted conservatively. There's a point, it's you got to raise taxes. Most townships, I'm talking from what I've seen, don't want to do it, but you deplete your reserves.
- R:** I think we're building reserves right now, and I was kind of concerned. I probably want go to a meeting to find out, but I was doubling it. That's double [crosstalk]
- R:** I can guarantee it. When that thing hit a few years ago, many people went in and appealed their assessments and they got the base –
- R:** All the new homeowners did. I was old, so I was happy with my [crosstalk].
- R:** Yeah, but the base went down. [crosstalk School districts –
- R:** [crosstalk] point we're done.
- [moderator returns]
- M:** It's like the teacher coming back in.
- R:** We broke down a little. We talked while you were gone.
- M:** Did you? To each other? Not just ...
- R:** Just some people.
- R:** [crosstalk] It's hard because you weren't here, so yeah.
- R:** We talked about you.
- R:** We got it recorded.
- M:** Watershed. This is an old term. It's a familiar term to many people in the room. Dana, did you know the term watershed before?
- R:** Yeah.
- M:** Elsabet, did you?
- R:** Yeah.
- M:** Which would you use most commonly in conversation? Watershed or basin?
- R:** Watershed.
- R:** Watershed.
- M:** Yeah, because basin is used as a synonym in other, in Ohio or something like that. Okay?
- R:** I'm not sure.
- M:** Thank you very much. Let's read about, you guys have to help me do it because I don't ... There's Christiana and Christina or something like that, so you have to correct the ... Okay, so I'm now going to read about the Healthy Water Fund. "The Brandywine-Christina Healthy Water Fund is a proposed funding strategy to address pollution in the Brandywine-Christina Watershed. Water funds may be new to this area, but the concept is not. Funds have been implemented successfully elsewhere in the United States and other countries. At its most basic level, a water fund enables people downstream, such as residents, farms, whole communities to invest in upstream conservation measures designed to restore or protect fresh water

Group B – Agricultural; May 12, 2016.

- resources. Both the quality and quantity and far into the future.” There's another principle with this. It's not in the paper. There's the belief in this Healthy Water Fund that it's kind of like a stitch in time saves nine. If the money can go to the source even though the source isn't in your backyard or right with you, if your one dollar can go to the source, that's better than waiting around on it and it cost nine dollars. That's another belief of the Healthy Water Fund that they offer, efficiency's a dollar spent because it can go where it's needed the most.
- R:** I'd rather do it in the beginning. That's why I was willing to give a little money because I don't want to do it later. I don't want to have to say, "Okay, it's a mess now, and we need ten million dollars to clean it up."
- M:** I would like an individual two sentence reply to that. How do you feel about the level of efficiency that might be possible with such a structure that you can spend one dollar, these are less, you could spend a little bit to fix the problem even if it's away from you, rather than wait for it to get near you where you have to spend more? That's kind of good idea, bad idea?
- R:** Good idea.
- R:** Is it voluntary or mandated funding now? Is this what you're talking about [inaudible]?
- M:** This focus group is used to collect opinions to see how successful or not it would be to ask for a Healthy Water Fund.
- R:** That would be voluntary funding. In other words, you're –
- M:** I have no ... It could come in a water bill, it could come in your taxes, it could come in a fund, it could come from, or it could be a private organization.
- R:** Well, what I got to say, you got to be careful how many groups you get to dealing with this money during too much administration and the cost. I'd rather try to get the little ones to come into a big one and they begin to look and see and prioritize where the money needs to be spent. That's what I think. I'd put it in, I'd try to get as few as possible so you keep the administration down and then you prioritize it and go from there.
- M:** Barclay, how do you feel about spending as little as possible, it could be near you or it could be far from you, to address the source of water pollution? Or is it better just to spend it near where you are?
- R:** I'm going to spend it on my own private property.
- M:** Thank you. Chris?
- R:** It's a good idea in principle, however, I think the devil's in the details.
- M:** Meaning?
- R:** Meaning, what the strategy is, what's the intent, if there's preferences in how they handle getting clean water. In principle it's a great idea.
- M:** If Stroud were to be the administrator of this fund?
- R:** Then I would have much more confidence. If it was the Stroud-Brandywine-Christiana Healthy Water Fund, I would be much more confident than the my two teenage boys ...
- M:** My three sons?
- R:** Exactly.
- M:** Then ...
- R:** I'm sorry. That was a [crosstalk]
- M:** Then in principle, if it were with a trusted administrator, Stroud or someone else that you trusted, how much do you believe or not in that one dollar spent over there is way better than nine here?
- R:** I don't know about nine but maybe four or five, but I believe in it in principle.
- R:** You mean prevention versus cleanup?
- R:** Yeah.
- R:** Okay.
- M:** At least source versus residue or a trickle down.
- R:** Got you.
- M:** Don?
- R:** I like the concept, I share some of Chris' concerns. It could be well done if it's done by the right people, or it could be another bureaucratic nightmare. Barclay mentioned this, too, if it's not done well, but I like the idea.
- M:** The notion of efficiency?
- R:** Very important.
- R:** Good idea.
- R:** I'm an ounce of prevention is worth a pound of cure kind of person. I think they need to, but I also think maybe if you did a voluntary instead of mandated, maybe if you do voluntary, there could be some perks

Group B – Agricultural; May 12, 2016.

- with the voluntary people who do decide to do it. I wonder if that's enough money, and then the mandated could be a backup plan.
- M:** Very interesting, so what would the incentives be, Dana, to participating in such a Healthy Water Fund?
- R:** We have spring water, but ...
- R:** Taxes. Tax break.
- R:** Tax break or you could have a break on your water bill. I don't know how Aqua could get into that.
- M:** Tell me about the tax break, Larry. What tax break begins to make sense? A dollar or fifty-nine thousand?
- R:** You were just saying what would get people involved. Reduction in taxes always gets people involved.
- R:** They care about, and then as a farmer, we have more land, so if we got more tax breaks it would benefit us more maybe, right? [inaudible]
- M:** Okay, you guys.
- R:** Also, we have ...
- R:** Let me ask you this before you move on.
- R:** ... organizations.
- M:** Yes, quick. Okay, Elsabet.
- R:** Definitely if you add a name that people in the industry respect, they're going to have a bigger buy-in. If I understand the concept right, you pay money for here, you pay money for upstream, it's the same thing. Wait till we see the benefit here because we're waiting for that water up there to come downstream and we reap the benefit.
- M:** I don't understand you.
- R:** We're going to wait ... Water flows downstream, right?
- R:** Most of the development tend to be upstream.
- R:** We're going to pay money for it down here in our neighborhood, and it's going to take longer for them to build it up. When we pay for the source, how many years are we going to feel the benefit of what we're paying for up there because that's not our water that we're drinking from down here.
- M:** I see. Okay, so you're not a believer. Do it in my backyard because way over there I'm not sure.
- R:** I would like to know how long it's going to take for me to feel the benefit either way. Do you see what I'm saying?
- M:** Yes. Okay, so that interesting.
- R:** If you're getting cleaner, if you're getting public water and we're cleaning up the streams, you should feel it right away because they're going to have to use less chemicals to clean that water.
- R:** Right away? A month?
- R:** Yeah, in a month.
- R:** Mm-hmm (affirmative). However, if it's an investment in infrastructure to clean it up, it might take three to five years because it's infrastructure versus just having less runoff tomorrow.
- R:** Right, and Mother Nature plays a big part in this whole system.
- R:** What will we do though if we wait and we don't have any fund and then we have no money?
- R:** It's a bigger expense to clean it.
- R:** It would be a bigger expense. It'll be worse.
- M:** Okay you guys, go to your photocopies. I'm going to do my best here. This is another part of the photocopy. Please tell me how important or not these different things are. We're thinking of the Healthy Water Fund. Here are some different things that the Healthy Water Fund might do. I want to find out how important or not it is to you. What would cause the money to fly out of your pocket faster, what would keep those pennies in your wallet? Please tell me how important or not each of these is to you in an expository way. Give me a phrase or sentence or two. Knowing that the Healthy Water Fund will upgrade waste water treatment plants, how important or not is it that it will upgrade waste water treatment plants? Start talking.
- R:** Important.
- M:** Because?
- R:** Because I know they dump in the Brandywine River, and they drink that water in Wilmington. Downtown dumps in there.
- M:** How important or not is it that the Healthy Water Fund upgrade waste water treatment plants?
- R:** Extremely.
- M:** Because?

Group B – Agricultural; May 12, 2016.

- R: Their infrastructure is limited in its time frame and the volume of water going through, they need either more capacity or better infrastructure.
- M: How important or not is it that the Healthy Water Fund protect and improve drinking water? How important or not is it that the Healthy Water Fund protect and improve drinking water?
- R: Important.
- R: Important.
- R: Very important.
- R: I actually disagree because drinking water is the last effect of all the other stuff you do, so you got to choose which ones are going to have the biggest impact on drinking water. Drinking water's the last item.
- M: Chris, would you consider running for president because right now I don't really like everything [inaudible]? Would that be okay with you? [laughter]
- R: Trump doesn't have a [inaudible] candidate. I don't know how he ...
- M: I should never have opened that box.
- R: Whoever is going to be VP might be president.
- M: You'll be VP? You're willing?
- R: Yeah.
- R: Vote for Chris. Vote for Chris.
- M: Okay, how important or not is it to you that the Healthy Water Fund will remove toxic chemicals from local streams, creeks, rivers, and ponds? Toxic chemicals. How important or not is it to you that the Healthy Water Fund remove toxic chemicals from local streams, creeks, rivers, and ponds?
- R: Very important.
- R: Yes, very.
- M: Keep talking, Elsabet.
- R: That E. Coli, that's from all this antibiotics that the cows have.
- R: I think that the ...
- R: I don't know.
- R: ... talking about fishing and stuff.
- R: We use very little antibiotics.
- R: That kills our fish and wildlife and everything, and I really think that in order to ... When we fish, I don't want to eat a fish that's sick so I get sick, and I don't want my kids to do it either, so I think that's really important.
- R: They were stocking the streams around here, and the water in the hatcheries were so polluted.
- R: Oh, gosh. Really?
- R: That was where the problem of eating the fish. They said you could eat probably one fish or you don't want to eat too many of them.
- M: Do you know, I looked at how many fish you can eat out of the Anacostia. One in your lifetime.
- R: Wow. One too many for me.
- R: I don't know if I'd risk it.
- M: I know. [crosstalk] How important ...
- R: We're okay.
- R: Got to be really hungry.
- M: Sorry, I shouldn't have done that. How important to you is it or not that the Healthy Water Fund provide funding to help local agricultural industry address water pollution problems? They give grants. How important or not is it to you that the Healthy Water Fund provide funding to help local agricultural industry address water pollution problems?
- R: Very important.
- M: Say more, Don.
- R: That is a key to helping things happen. Landowners generally want to do the best job they can to minimize pollutant runoff on their land, and having someone invest along with them is great.
- R: Cost a lot of money.
- R: It costs a lot of money to do the improvements we're talking about, and having cost share funding's very important.
- M: How important is it to you or not that the Healthy Water Fund helps reduce erosion and flooding? How important or not is it to you that the Healthy Water Fund addresses erosion and flooding? [inaudible]
- R: Is it possible?

Group B – Agricultural; May 12, 2016.

- M:** I have no answer.
- R:** He said there will always be erosion.
- R:** It's a natural effect.
- R:** It's part of nature to have erosion.
- R:** Is the flooding a five-year flood or a fifty-year flood or a hundred-year flood?
- M:** Whatever you like, Chris. Just write it in there on your photocopy. I'm serious – [crosstalk]
- R:** Are we supposed to be writing things down? Are we supposed to be prioritizing or are we supposed to be saying yes, yes, yes, yes, yes?
- M:** I want to know what's important to you about each of these, and then at the end I will ask you to pick one or two. How much does it affect you and your business, how much does it touch you emotionally, how important is it or not that the Healthy Water Fund address erosion and flooding?
- R:** I'd say not very important for them because I already do it. I put a lot of effort into it, and I can do it in my kind of farming without spending any more money to do it the right way.
- M:** What kind of farming do you do?
- R:** I'm a vegetable grower, but I do a lot of no-till farming and contours. Everything to keep things from running off.
- M:** How important or not is it for the Healthy Water Fund to protect and restore wetlands and forests to absorb storm water? How important or not is it to you that the Healthy Water Fund protect and restore wetlands and forests to help absorb storm water? Barclay?
- R:** Very important.
- M:** Say more.
- R:** The riparian buffers that we're putting around our streams are forested, and it helps to cool the waters and the leaves...the right insects grow. Those mayflies, they like mayflies and things. You got to be careful. Army Corps of Engineers, they have a lot to do with it. You take one of these counties up there, I forget the name of it right now, they got big places they put in, big reservoirs and dams that control the storm water. You can fish in it. I don't know whether I'm helping you or not, but [crosstalk]
- M:** Okay, it was interesting. How important or not is it that the Healthy Water Fund plant trees and greenery in cities and towns? How important or not is it to you that the Healthy Water Fund plant trees and greenery in cities and towns?
- R:** It's important. Trees emit a certain...they take in and go out, and so if you have a town like Philadelphia, it's highly polluted I want to say, I think the tree on your street would be great.
- M:** You guys, I don't know if this is true or not, but if you plant more trees in town, can you plant fewer trees or can your buffers be smaller on the farm? Does that ...
- R:** Probably not.
- R:** No.
- R:** You're going to begin to look into the air quality, too, in a lot of this stuff.
- M:** All right. How important or not is it to you that the Healthy Water Fund provide funding to help townships and municipalities? How important or not is it that the Healthy Water Fund go to townships and municipalities?
- R:** I would say not important.
- M:** Keep talking.
- R:** I don't know that we need townships to take the lead role in water quality improvements.
- M:** Who should? I know Stroud. Who else?
- R:** Private organizations like Stroud ...
- M:** Keep going.
- R:** ... and then –
- M:** Stroud and? Oh, the ...
- R:** – the Brandywine Conservancy, there's groups.
- R:** Conservation District.
- R:** Conservation District.
- M:** I didn't get a vote on universities. Good, bad, or indifferent?
- R:** Bad. Sorry. Well, West Chester University's pretty bad.
- M:** You wouldn't trust them to administer or evaluate.
- R:** No. [crosstalk] Mm-mm (negative).

Group B – Agricultural; May 12, 2016.

- R: They're academic. They have the academic credentials but not the practical approach.
- M: What about the 4-H? What is that, the Extension?
- R: 4-H is for the kids.
- M: Oh, really? Not [inaudible]
- R: Extension's great, but they're not the right party to administer water quality.
- R: That's more education. They might [crosstalk]
- R: Right. They're education, not this.
- R: Along with these towns, I think they already have the authority through their ordinances is what I mentioned. The storm water ordinances. When you build that shed, you might be mitigating that storm water by a riparian buffer. You're going to have to somehow capture that water. I don't know what you're into [crosstalk]
- M: What do you guys want the money to go the most? The Healthy Water Fund will provide money or assistance.
- R: Hold on one –
- R: You're not [crosstalk] on that.
- R: Wait.
- R: [inaudible] one thing.
- M: Wait. I'm going to read the list again.
- R: I know, but the list isn't complete.
- M: I know. There's another whole half. Because you don't have your photocopy, I have to do it in smidgens.
- R: Okay.
- M: All those that we have discussed so far, wait a minute, Chris. Which is the one that we're missing?
- R: We're missing the residents.
- M: Help residents do what?
- R: Help residents get knowledgeable on what they can do but also to give them funds to help improve their properties with all the lawn chemicals that are going on and options.
- M: It's important for you that the Healthy Water Fund educate residents as to what they can do at home and also provide funding if necessary.
- R: Correct.
- R: Also, industries. If we educate them as to what good materials to put in your lawn, where are they going to get them if they're not being sold in their area?
- R: They will come in demand if you can't get the other stuff. Somebody will supply it if you can't get...somebody will step up ...
- R: To the plate.
- R: Your extra money that you're willing to spend might not be to this fund, but it might be to do the correct application of an organic thing instead of a straight fertilizer.
- M: Of this partial list of things that are important, of these, which is the most important that the Healthy Water Fund address? Chris' residents, educating fund, private citizens, that's one. Upgrade waste water treatment plants, that's two, protect and improve drinking water, that's three. Remove toxic chemicals, that's four, provide funding to help local agricultural industry address water funding problems, that's five. Reduce erosion and flooding, that's six, protect and restore wetlands and forest to help absorb storm water, that's seven. Plant trees and greeneries in cities and towns, that's eight, and provide funding to help townships and municipalities, that's nine. Of those things I've said, which matters to you the most?
- R: Five.
- M: Five is ag. Okay. One for ag.
- R: I'll add mine to that.
- M: I see three for ag.
- R: Four for ag.
- M: Four.
- R: I vote the residents, just to be different.
- R: What was the full thing for the toxic? Remove toxic ...
- M: How important to you is it or not that the Healthy Water Fund remove toxic chemicals in local streams, creeks, rivers, and ponds?
- R: Yeah. Right there for me.
- M: Okay. I got [inaudible]. All right, so we have-

Group B – Agricultural; May 12, 2016.

- R: I'm going to go for two. Water treatment.
- R: I'm going to go for water treatment, too. I'm tied between, if I could make it a tie, I would be water treatment and the agriculture. Yeah, both of those.
- M: Second page of our photocopy sheet.
- R: Some of these do each other. You do the water treatment then you're not going to have the toxic stuff in the streams.
- M: Where does it start, Elsabet?
- R: [inaudible]
- R: Exactly.
- R: Yeah, you're pretty correct.
- M: Where does it start, Elsabet? Which one do we have to do first? Can anybody help?
- R: That's why I'm proposing the ag because a lot of rainfall hits ag land and flows across it. That's its very first trip, down the grade, and let's start there.
- R: The only thing with that is that there's been some studies showing that ag actually is almost there. They're almost complete with what they can do, and it's some of these other areas, the residents, the water treatment, that actually would have the biggest impact for each dollar. That ag really can't do much more.
- M: You're at ninety-nine point seventy-four percent of what you can do?
- R: You already implemented your conservation plans.
- M: Okay. H.G.?
- R: You've already done best practices.
- R: I would let Stroud decide what the most important one is. The source, the main source which you're trying to get to the main source, right?
- M: The best ... I don't know if it's the main source or not.
- R: Yeah.
- M: It makes sense to me ...
- R: They're in the industry. They're running their studies. They've been in that industry.
- R: [inaudible] so they know.
- R: They should be able to know.
- R: Yeah, they would be well-equipped.
- R: They know how to prioritize the most.
- M: How important or not is it that the Healthy Water Fund create good paying jobs in local area industries like engineering, construction, and landscaping? How important or not that the Healthy Water Fund help create jobs?
- R: No.
- R: No.
- R: Now your money's going to disappear.
- R: Right.
- R: Real quick.
- R: I guess if it enables Stroud to hire more people to help because they never have enough money as it is, so that may ...
- R: That's a byproduct. We're not here to ...
- R: Yeah.
- R: This isn't to create jobs, this is here to ...
- R: Correct. It's not specifically to ... It's going to be a byproduct, right.
- R: They want someone qualified, and you guys are saying you already have the people qualified. No need to go start another group off the side.
- R: Well, it'd be the same group, they just need to hire more people to do it.
- R: Don't we already have the engineers though? The water engineers and ... That's a field now at some colleges.
- M: I just have to understand. I'm going to push back because Chris apparently is going to run for vice president, and now I get to establish policy. Ladies and gentlemen, it's always a good thing in America to create jobs. Healthy Water Fund?
- R: That's not why we're establishing the Healthy Water Fund. It's not a job creating incentive. We're here to clean up water. If it happens to create jobs in the process that's good, but that's not what we're focused on.

Group B – Agricultural; May 12, 2016.

- R: Yeah, because you have incentive ... I'm going a little off track. Don't you have incentives in the cities to have a community that plants trees and does all the stuff like that? Individual communities to plant –
- R: Community gardens.
- R: Yeah, community gardens, raised beds, and then they plant trees also. Maybe make a tree in memory of whatever, and then the community to gather as a conservationist in itself and then ...
- R: Green [crosstalk]
- R: Wouldn't work on our huge farms but ...
- R: They have people to educate. We're going to spend up all this money. People are going to be real salty about spending money that they don't know anything about because they don't get it. You need people to educate.
- R: I agree with you. What's happened in ag is when we've invested in people to go learn ag so they come back and work the farms is they get offered more pay at industries. They never come back to the farms, so I guess I'm tainted in my opinion on funding a water engineer because they'll probably go work for a power plant instead of come and work for Clean Streams.
- R: Exactly. That's where I'm ...
- R: He will work for Clean Stream for two years to get his time in and then they'd be gone.
- R: Which you said, high paid jobs.
- M: I did not say high paid job.
- R: Oh, you didn't?
- R: It is a good paying job.
- R: Wasn't there something about pay?
- M: I did. I did.
- R: Okay.
- M: I'm [inaudible]. We've had the discussion about jobs.
- R: I ain't voting for you.
- M: [crosstalk] the fund will create good paying jobs in the local areas and industries like engineering, construction, landscaping. Maybe that's going to counter ...
- R: You pay them.
- M: ... so they won't go to New York. Maybe they'll stay here.
- R: [crosstalk] will stay home.
- R: You pay someone that's qualified that's going to invest years in the company.
- M: Okay. How important or not is it that the Healthy Water Fund plants trees in neighborhoods and creates beautiful new rain gardens and green spaces that local communities can enjoy? How important is that?
- R: Lower in the list.
- R: Low.
- R: I think they all –
- R: It's a good thing but we're –
- R: Most township already are doing that by buying park ground up which is putting a burden on the taxpayers in the townships.
- R: We have a rain garden right out front, and it's funded by Laurel Valley, isn't it? We have one right here.
- M: Whose Laurel Valley?
- R: Tell them about it.
- R: Laurel Valley is a maker of mushroom compost to grow mushrooms.
- M: Would they be a good person to administer such a type of fund?
- R: Absolutely not.
- M: No, because?
- R: We're experts at making the favored food for mushroom, not about clean water.
- R: You funded that one [crosstalk].
- R: We funded, we do green roof, we do lots of good things, but we're not the experts in looking at all areas.
- M: How important or not is it that the Healthy Water Fund ... The Healthy Water experts agree that the fund is needed to make waters healthy again. How important or not is it to you that experts agree that this fund is needed to make our waters healthy again?
- R: You want everybody on the same page you're saying.

Group B – Agricultural; May 12, 2016.

- R: I'm happy with that.
- M: I think the question is validation of some sort. I don't know. Stroud or EPA or Acme Chemical or something, they all agree. The experts ...
- R: Yeah, I would say that's pretty important.
- R: We won't get there if we don't create this fund, we're not going to get all these things done without creating this fund is kind of where the question's coming from?
- M: No, I think it could be, but I think the intent of this particular question is does it help more or not knowing that experts agree? That there's an expert over here and expert over here, that they all ...
- R: Yes.
- R: It helps me, I think someone cares then. They're not ignoring it now, and so they know there's a problem maybe and we ...
- R: Or it's not a stupid idea that somebody's spending a lot of money on that nobody agrees with.
- R: Yeah.
- R: It's better that expert versus the government saying that we need this.
- R: Right.
- R: I think it's good.
- R: Yeah, it's important.
- M: How important or not is it to you that the fund would clean up contaminants like motor oil, chemical fertilizers, weed killers, and heavy materials from industrial smoke stacks?
- R: It would pay to clean up versus pay for the infrastructure for a business or group to make the improvements. It's kind of a teach me to fish versus give me fish.
- M: Oh, I see, so this is giving a person a fish when you want them to know how to do it by themselves.
- R: Not only how to do it but maybe there's cost shared funds. Here's part of the million dollars for you to fix everything, not just clean it up once.
- M: See? I expect to see your name printed on a little ballot. How important or not is it to you that this fund would help keep bacteria and viruses from sewage and dog waste out of the water, making the water safer for swimming?
- R: Pretty important. We have the Brandywine River which is a recreational waterway and lot of people flopping around in there. There's a lot of bacteria in there.
- R: I won't go in there, Brandywine Picnic Park. I can get into a boat, but I will not go in the tubing, and yeah.
- M: We just heard that it's polluted, but how important is it or not that it address?
- R: It's important.
- M: Because?
- R: You don't want to get sick playing in the river. I don't want my kids ...
- M: I didn't know if tourism was important or not in the area. Is it a good thing or bad thing? Does tourism help preserve the land that you have or is it development that ... ?
- R: Recreation is good.
- R: The Brandywine flows from way, all the way through this whole area, so it's top to bottom. It just continues on, and so it affects different places along the way.
- M: How important or not is it that the fish are healthier, that the fund protects the seafood you love to eat? How important or not is it that the fund help protect the seafood you love to eat?
- R: Definitely. We need to be able to live off the land better and be able to do that.
- M: How many people care about crabs? I mean, come on.
- R: I love crabs.
- M: Hey. Here's an answer.
- R: They're on the bottom ...
- M: Oysters?
- R: ... so whenever we're [crosstalk]
- M: Oysters? Come on.
- R: Oh yeah, definitely.
- R: Catfish?
- M: They're ugly but I really don't ...
- R: They hang on the bottom.
- M: Yeah, they do.

Group B – Agricultural; May 12, 2016.

- R:** They're tasty, too.
- M:** They are. Okay, so how important or not is it that the fund be fair that the fund be collected in a fair manner across businesses, renters, everyone in the community will pay into the fund? Not just homeowners, not just landowners. Each, every person who lives or resides or drives through, I guess, or stays for short time has a responsibility to pay fair share, so that would be on hotels and everything. Fair share to help make waters clean and healthy.
- R:** It sounds like a tax, but it should be shared by all I think.
- R:** It'd be very hard to implement, I would think.
- M:** So? I know how to do it and everything.
- R:** You will spend more money trying to get a little bit, trying to do everybody like that.
- M:** You think collecting from everyone is inefficient?
- R:** It'd be very hard to do.
- R:** Better to collect from everyone than just collect from a few.
- R:** Taxes. That's how you do it.
- R:** That's taxes and then you got taxes.
- R:** I want to throw out a scenario here because yes, in principle, it sounds like a great idea, but if you ... A question about an hour ago was, do you think it should be taxed based on your water usage, and that seems like a perfect idea. Everyone has water that they drink or use, but then if you look at the farmer who might pull ten thousand gallons out of the water for a crop that then everyone eats, if that's on ten thousand gallons versus a hundred gallons to a homeowner, then it's not fairly distributed. It may be a burden that's too much for a farmer, so it depends on how it's fair. I think in principle, fair's good, but how you would divvy up what's fair is another scenario.
- M:** Who do you want to help ... You're looking for a weighted average of some sort, so the farmers pay, I'm going to say, point three four cents of the dollar and the residential pay a dollar and industry pay, I'm making this up, one point one five or something. Who do you want to allocate that? How do you want that? Do you want to have a voice in that? Do you trust your legislators to have a voice in that? Who do you want to set those different rates if they're –
- R:** This gets back to what I'm nervous about with the state or the government, how they can determine what's going on. Your concept of the volunteerism and getting it out there, I think that's the great grassroots mover, but then when you start to say, "Hey, this is a big thing, and it's a hundred million dollar fund to help this," I don't know how you're going to fund it. That's the scary part to me. I don't know how to make it fair.
- M:** If I were just to put it back, I would say Stroud alone can't decide because – I'm going to just exaggerate to make my case – Stroud is going to favor agriculture and Stroud hates DuPont and DuPont's going to get funded or find a million giga-jobs, who else has to be in there to balance Stroud if that ... What other type of entity?
- R:** There you go, spending money. Trying to have a middle party? You trying to have a middle party?
- M:** I don't ...
- R:** Middle party that's not biased anyway?
- M:** Yeah, I want an independent or ... Yes, who would be not biased?
- R:** Which is this [inaudible] this name that nobody has ever heard of, and they're fearful of that third-party they know nothing of, but when you drop a name like Stroud and people are like, "Yeah." See what the market is in the area. Are there more farmers? Are there more –
- M:** Who else needs to be in there to, in theory, balance it? Who else would you trust? Because let's say that if Stroud's going to be a friend of ag, then who can be in there as a friend of industry or who can be in there as a friend of ...
- R:** I don't think Stroud's any more friend of ag than they are a friend of industry. They're [crosstalk]
- R:** They're pretty objective.
- R:** In general.
- R:** I think they're pretty objective.
- R:** They're building the water quality here. Here's the thing I get looking at this thing. We already got the NRCS. That's a federal fund that comes in. We got the state, they have fundings, conservation fundings. We already have it coming into us. I don't know why you have to do so much to create another tax when we already have enough stuff coming into me. You understand where I'm coming from? A lot times ...
- R:** Yeah, [crosstalk] funded ...
- R:** ... your district doesn't get enough money from the government. Why can't the government ...
- R:** Can't it be funded by the state?

Group B – Agricultural; May 12, 2016.

- M:** Okay. You guys, I have a question. Sorry, I have to ... Has your opinion, has your willingness to ... Let's see. Has your opinion of the Healthy Water Fund increased, decreased, or stayed the same the further the conversation has gone? How much has your willingness to participate or see the Healthy Fund be created has your approval, has your willingness to support this Healthy Water Fund increased as the group went on, decreased as the group went on, or stayed the same?
- R:** It's increased for me. Increased even more.
- R:** Increased.
- M:** Larry?
- R:** I think stayed the same. I'm pretty tight with my money.
- M:** H.G.?
- R:** Stayed the same because I had a high opinion of it to start.
- M:** Barclay?
- R:** I say we already have funding at the state level, federal level and all. I say on the voluntary side's where you got to get it.
- M:** For you personally, has your opinion of this Healthy Water Fund improved as the group went on, declined as the group went on, or has it stayed the same? Where do you –
- R:** If it's voluntary, it's increased and getting more people to fund it on a voluntary basis.
- M:** Chris?
- R:** Increased.
- R:** Stayed the same.
- M:** For those of you for whom it has increased, can you explain that?
- R:** Just get more players in the thing. Get more money.
- R:** I wanted to know the answers to all the water issues. It's always –
- M:** For those of you whose opinion has stayed the same about the Healthy Water Fund, explain that.
- R:** It started out positive, and it's still positive. I realized when I first read this, my mind went through, "Well, there's a lot of issues that would have to be worked out," and now we're talking about some of those issues, so it hasn't ... [crosstalk].
- R:** Yeah, I'd agree with these [inaudible]. There's nothing that's pushed it down.
- M:** Has anybody –
- R:** Just has to be done right. It just has to be done right.
- M:** Has anybody's willingness to support the Healthy Water Fund declined as the time went on in this group? No? All right. In your own words, what does polluted mean?
- R:** Dirty. Dark.
- R:** Toxic.
- R:** Undrinkable.
- M:** In your own word, what does toxic mean?
- R:** Chemicals.
- R:** Chemicals.
- R:** Poison.
- R:** Bacteria.
- R:** Death.
- M:** Death? Okay. In your word, what does contaminated mean?
- R:** Don't drink.
- R:** Adulterated.
- R:** It can be cleaned. There's hope.
- M:** In your own words, what does impaired mean?
- R:** Means it's got a problem.
- R:** [crosstalk] put in and leaves natural state.
- R:** It was good at one time, but now it's not.
- R:** Right. Used to be good and no longer good.
- M:** Okay. There's a balance between ... You guys said, yes, it is worthwhile to try to clean up the water. We have to deliver the notion that the water is in danger, but you can't make it so bad that it's hopeless, so does impair get you there? Does impair tell you there's problem but yet still provide hope?

Group B – Agricultural; May 12, 2016.

- R: Yeah.
- M: Does contaminated tell you there's something that's not good but still provide hope?
- R: Yes.
- M: Does toxic get you there but still provide hope?
- R: No.
- R: No.
- R: No.
- R: All the same.
- M: Does polluted get you there and still provide hope?
- R: Not much.
- R: Possibly.
- R: Yeah, you can clean polluted out of it.
- R: Possibly.
- R: Yeah, you can. Depends.
- R: Stop the source.
- R: On the toxic side, don't they do something in these coal mines for the –
- M: Thinking of water, which word do you want to have in the Healthy Water Fund that tells you that includes the notion that there is a problem but yet makes it possible to clean up?
- R: I think we need urgency if you're going to grab people's attention.
- M: Of these three words, which works the best?
- R: Contaminated.
- R: Impaired.
- R: I don't know.
- R: I think polluted makes it more scary sounding. Impaired does not scare enough.
- R: More people will understand what polluted means than impaired probably.
- R: Polluted already has been used, it's already been used in relation to water, so it's something that people are familiar with and can be improved.
- R: Also people overreact when they see polluted, too.
- R: Yeah, don't go in there.
- M: Tell me what fund means in your own words.
- R: Money.
- R: Stash of money.
- R: Reserves.
- M: Tell me what fee means in your own money.
- R: More, you're going to pay more money.
- R: Going broke.
- R: Tax.
- R: Tax.
- R: Yeah, tax.
- M: Tell me what tax means.
- R: Uh oh.
- R: Mandated.
- R: Government.
- R: Government.
- R: We all have to pay it. You're in trouble if you don't pay it.
- M: What is the best way to describe the Healthy Water Initiative such that you have confidence where the money goes or such that you would be willing to support it?
- R: Fund.
- R: Fund.
- R: Fund.
- R: Funds.
- M: Because?

Group B – Agricultural; May 12, 2016.

- R: Fund means, unlike taxes, you got to do it or you got a problem, fund means we're gathering a lot of money, and we're hoping you will help us. It gives us hope.
- M: I already did –
- R: I do like the word fee. I'm going to say that.
- M: Because?
- R: It's a little here. Little here, everybody's contributing a little bit here and a little there.
- M: What does storm water mean?
- R: It makes sense.
- R: Storm water runoff? That's what I think.
- R: Excess water.
- R: From the storms.
- R: Excess water.
- R: Volume of water after a rain event.
- R: Erosion.
- M: What does runoff mean?
- R: Basically the same thing.
- R: What's not absorbed.
- R: Storm water that's not captured.
- R: Runoff left the property. Storm water just is water that comes from a storm.
- M: Runoff then is the better word to describe what's happening with the water? Storm water's just plain nature?
- R: Storm water could just be collected whereas runoff is definitely running off.
- M: We're getting there. I actually noticed. Nonpoint source pollution. What does that mean?
- R: You don't know where it came from.
- R: It's pollution that you can't find the source.
- R: It's not coming out of a pipe discharge. It's a runoff usually off of the land. You can't necessarily determine exactly.
- M: There's point pollution that's one pipe that you can point to it.
- R: Right.
- M: Then nonpoint source pollution is all the giga-gillion yards, all the giga-gillion parking lots, so it's a little ...
- R: Yeah, there's somebody just dumping.
- R: All the stuff running off the roads and stuff.
- R: Yeah, roads.
- M: Now that I've given you my loose definition of nonpoint source pollution, can you tell me in your own words what nonpoint ...
- R: Source. They found out what's in the pollution, but they don't know where it came from. They don't know what the source is.
- M: Okay. Anybody else want to take a crack at nonpoint source pollution?
- R: It's the whole valley. It's anything that would happen in the whole valley as opposed to one specific location.
- M: Water quality. What does that mean?
- R: Can you drink it?
- R: Is it clean?
- R: That's what I think.
- R: Clean water.
- R: Assessment of the ...
- R: Water.
- R: ... water.
- M: What does clean water mean?
- R: You can drink it, hopefully
- R: Drink big.
- R: It's potable.
- R: Clear.
- R: Potable.

Group B – Agricultural; May 12, 2016.

- R: Oxygenated.
- M: What does healthy water mean?
- R: Potable.
- R: You can drink it.
- R: Oxygenated.
- R: I don't know what that means.
- R: They're going to sustain life.
- M: What do you want the goal of this initiative to be? Do you want to achieve healthy water, do you want to achieve clean water, or do you want to achieve water quality?
- R: Almost one and the same.
- R: All three.
- R: Healthy. Real healthy water.
- R: The government will say healthy water has fluoride in it. They're ...
- R: Their opinions of healthy water's so different because there are micronism you can ... They lowered that certain particles can go through and that's okay, but that might not be okay. Really.
- R: Right, so let's ...
- R: In the whole realm of having your water tested, the water guy will tell you it's this part, this part, this is not good, but it may come from your faucet anyway. That's ...
- R: What's healthy to you is not healthy for me.
- M: What do you want, where do you want this fund as a goal? Do you want the fund to achieve healthy water, clean water, or water quality?
- R: Clean water.
- R: I actually think water quality. [crosstalk] Clean water has been overused, and healthy water is there's so many different variations, but water quality, and this is just me, I don't know about everyone else. Water quality to me can be used for drinking, it can be used for agriculture, it can be used in any other process.
- M: Does it need an extra word? Is water quality plenty or do you need good water quality?
- R: All those need extra adjectives.
- R: Yeah.
- M: In your own words, what is nutrients?
- R: Vitamins and then maybe phosphorous or something.
- R: It's energy. Some kind of energy or a feed source of some description. Nutrient with it being in your body from carbohydrates or comes from nitrogen, phosphorous, potassium. It's a food.
- M: Think of the word excess with this. What does excess fertilizer mean?
- R: Danger.
- R: More than you need to grow a crop at that time. You need to put on, it needs soil test, find out what you have in the soil. You add what you need to get the production level your soil should support, so you shouldn't put more on.
- M: If you want to have people understand what the Healthy Water Fund, if you want to have people understand, how do you want them to, what word do you want them to read? Is nutrients sounding like a good thing or a bad thing? Is excess fertilizer sounding like a good thing or a bad thing? What do you want to remove –
- R: The public's not going to understand nutrients.
- R: Right.
- R: I think fertilizer will scare them.
- R: Yeah.
- R: Fertilizer is a nutrient more or less.
- M: Then Larry, give me a word.
- R: [crosstalk] the general public.
- M: Give me a word that refers to either excess fertilizer or nutrients. Can you find another word that consumers would ...
- R: How about biological something?
- R: Are you trying to want them to embrace it or to scare them?
- R: Be informed.
- R: Be informed about pollution, fertilizer ...?

Group B – Agricultural; May 12, 2016.

- M:** Yes, we need this removed from the water.
- R:** Biological balance.
- R:** It's more than just fertilizer.
- R:** Fertilizer can be organic or inorganic. It's how it's tied up like you're saying.
- R:** Fertilizer won't scare them.
- R:** Releases slow. The organic does.
- M:** Excuse me. I think ...
- R:** Over time.
- R:** It has changed the way we fertilize our fields, too. Back in the 70s, we put extra on for the next year. Now we can just afford to put enough on ...
- M:** Excuse me.
- R:** ... for this year.
- R:** It's also better to put on exactly that you need ...
- R:** What you need.
- R:** ... for this year.
- R:** Yeah.
- R:** Correct.
- R:** Studies show give it just enough. Not too much or too little.
- R:** Right, and with the cost of the stuff, you can't afford to ...
- R:** Waste it.
- R:** Spent compost is affordable.
- R:** Spent compost is very good applied properly.
- R:** Apply it the right way.
- R:** Sorry, that's my only plug.
- R:** Compost is a good word...
- R:** We use it.
- R:** ...for this.
- R:** My neighbor bought a composter and she composts. It's her ... She takes it out to put in her vegetables in and letting it oxygenating and stuff.
- R:** Right.
- R:** She doesn't know exactly where. She just wants it to ...
- M:** My buddy, Mr. Steve Raabe is coming in with checks. Please circulate this.

[END]