



Photo by Alex Slitz /Lexington Herald-Leader: The Curtis Crum Reservoir in Martin County, Ky., on Oct. 2, 2018.

Drinking Water Affordability Crisis

Martin County, Kentucky

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Executive Summary

The problems with Martin County, Kentucky's failing water system are well-known. The Kentucky Public Service Commission (PSC) describes the Martin County Water District ("Martin District") as operating in a "constant state of emergency" and claims that after "years of incompetent management and inept decision makers, Martin District's ratepayers have either deficient water service or no water service at all."¹

For decades, Martin District customers were exposed to known carcinogens and nervous system disruptors in their drinking water. Headlines clearly express the county's continued struggles with water quality and quantity.² However, what the media and public officials have mostly missed is the growing water affordability crisis in Martin County.

Rates for water service have increased by 41.5% since January 2018 and another rate increase is expected soon. Rates will likely be raised again to pay for the outside management company the Public Service Commission (PSC) has ordered the district to hire to take over all of the district's operations by year's end. While Martin County is one of the poorest counties in the state, it currently has the eighth highest average water bill of all water districts regulated by the PSC. If the rates are increased by \$10 (an additional 26.7% increase), an increase that Martin District commissioners claim is probable, Martin County will have the highest average water bill in the state.

Water is currently unaffordable for over 45.8% of Martin County residents, based on the Environmental Protection Agency's water affordability standard. Residents are being asked to suffer an excessive economic burden for access to drinking water that many believe is not safe for human consumption or use. Expected additional rate hikes will broaden and deepen the affordability crisis – putting more than half of the county above the EPA's standard for water affordability.

The district's revenue needs are substantial. Because of the long history of mismanagement, poor appropriation of public funds, disinvestment, and neglect, the system needs to be completely rebuilt. In addition, the system's daily operational costs are bloated because of the district's poor financial history, high water loss rate, and structural

and engineering inefficiencies. It is clear that without additional funds, the water district cannot ensure safe, adequate water for its customers.

But, as this Report demonstrates, Martin County residents cannot bear the costs. Immediate action is required to address the water affordability crisis in Martin County, as well as mitigate residents' concerns about the quality of their drinking water. Some suggestions, all of which warrant further study, are as follows:

1. Prevent further rate increases for Martin District customers
2. Direct funding from grants toward the most immediate needs of the Martin District - including fixing service and main water line
3. Appropriate funds in the 2020 state budget toward Martin County's water infrastructure needs and assistance for low income water customers
4. Establish forms of low-income assistance to support the most vulnerable customers in the Martin District
5. Explore alternative rate structures that could alleviate the burden of high water bills for the most vulnerable customers
6. Consider affordability when setting rates for public utilities

Additional suggestions for further study are presented in this report's Conclusion to this Report. Regardless of what the next steps are, each part of the process must ensure that residents are included in decisions that determine the future of the water district. Residents' input and involvement is critical in crafting solutions that will benefit the greatest amount of people in the county to the fullest extent possible.

Martin County Concerned Citizens and the Appalachian Citizens Law Center remain committed to working with the PSC, the Martin County Water District, and Martin County residents to advocate for and realize Martin County residents' right to clean and affordable drinking water.

Martin County Water District

The problems with Martin County, Kentucky's public water system are well-documented. The system suffers from decades of severe neglect and mismanagement by county and state officials. Over the years, the infrastructure and distribution system have been allowed to get so bad that there are threats of critical failures at every point in the system:

At the water supply, the intake system at the Tug Fork of the Big Sandy River has chronic issues and frequent failures. Most recently, issues with the intake system caused water supply crisis twice in 2018.³

In the distribution system, the problems continue. Over the past year, the Martin District's water loss rates have varied from 72.8% in August 2018 to 57.4% in February 2019. Water loss is the percent of treated water that is unaccounted for in the system. The average water loss rate for 2018 was 63.53%, and so far the average water loss rate for 2019 is 69.54%.⁴ In other words, most of the water the struggling district pays to pump and treat flows out into the ground rather than serving a single customer.

At the water treatment plant, the situation is not much better. The plant was built in the late 1960s to serve only 600 households in the town of Inez. Little was done to upgrade the plant as the system was expanded to serve the entire county's 4,316 households.⁵ The water demand for the system is 2 million gallons per day. There are three clarifiers in the treatment plant, each of which has a 1 million gallon per day capacity. Only one of the three clarifiers is fully functional, one has not worked for years, and the other is badly in need of repair.

Unsurprisingly, the Martin District also has significant financial problems. **The Martin District owes nearly \$800,000 in past-due accounts receivable.**⁶ Those outstanding operational debts reduce the district's purchasing power, as many vendors require cash on delivery and will not provide more advantageous purchasing arrangements.



Rented pump at the Martin District intake on the Tug River. Photo by author, January 11, 2019

Finally, the quality and consistency of the water provided by the district is poor. Line breaks cause frequent service disruptions and resulting boil water advisories.⁷ In addition, for most of the last two decades, the district was consistently in violation of the Safe Drinking Water Act's water quality standards for disinfection byproducts,⁸ exposing residents to known carcinogens and nervous system disruptors. According to the EPA's Safe Drinking Water Information System, the Martin District has violated federal water quality standards 90 times since 2001, including 34 Maximum Contaminant Level Violations for disinfectant byproducts Total Haloacetic Acids (HAA5) and Total Trihalomethanes (TTHM).⁹

Because of these ongoing violations, customers received quarterly notices like this on their bills for many years:

Testing results...show that our system exceeds the standard, or maximum contaminant level (MCL) for trihalomethanes (THM) and haloacetic acids (HAA)...Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. Some people who drink water containing haloacetic acids in

excess of the MCL over many years may have an increased risk of getting cancer.¹⁰

While the notices claim that these violations are “not an emergency,” receiving these warnings over many years has significantly eroded the public’s trust in their drinking water, as well as their trust in the regulatory agencies that govern the water system. Furthermore, this was compounded with the mistrust that arose after the 2000 coal slurry spill in the county, when a coal impoundment ruptured and over 300,000 gallons of coal waste spilled into rivers and waterways in Martin County. While the U.S. Environmental Protection Agency (EPA) and other officials claimed that the water was “safe” at a public meeting weeks after the spill, public concern persisted, and conflicting information and sentiments eventually precipitated a breakdown in trust in the regulatory agencies that govern water quality,¹¹ which persists to this day.¹²

In 2018, the system changed its chlorination method and has not been in violation of disinfection byproducts standards since.¹³ However, in an ongoing University of Kentucky study on water quality in Martin County, researchers detected trihalomethanes that were above the MCL in up to 15-20% of the homes sampled in summer 2019 and also detected coliform bacteria in a similar number of samples (15-20%).¹⁴

The breaks in the distribution system also cause significant water quality concerns. When there is low pressure in the distribution lines, untreated groundwater enters the lines and comes out of

customers’ taps without being treated. This infiltration likely explains the number of reports of contaminated and polluted water coming out of people’s faucets.¹⁵ Many residents report skin irritation, gastrointestinal problems and autoimmune disorders that they worry may be caused by water contamination.¹⁶ Preliminary findings from the University of Kentucky study, as well as discussions at community meetings, show that many customers of the water district feel that their water is unsafe for consumption and instead rely entirely on bottled water for both drinking and cooking.



Jars of water from Martin County Water District customer’s tap, posted on “Martin County Water Warriors” Facebook Group by Hefner Hare in February, 2018.

2018 Water Rate Increases

These crises of water quality, quantity, poor management, and indebtedness require significant financial resources. Under Kentucky law, the water district must provide “adequate, efficient, and reasonable service” at “fair, just, and reasonable rates.”¹⁷ The rate must be sufficient to fund both the operational and capital needs of the water district.¹⁸ Any change in rates must be approved by the PSC.¹⁹

After the 2018 water crisis, the Martin District requested a 49.5% rate increase. In response to the

request, the PSC raised significant concerns with the management of the Martin District and its high water loss rate. The Martin District’s requested rate increase in January 2018 would have raised the minimum monthly bill from \$26.50 to \$39.62.²⁰ The PSC did not grant the full rate increase as requested, partly because of the system’s high water loss rate.²¹ Instead, the PSC increased rates in two separate orders. First, the PSC granted an emergency rate increase of 26.5% on March 16, 2018, which included a \$4.19 monthly debt service surcharge that can only be used to pay off past

debt.²² Second, on November 5, 2018, the PSC entered an order for an additional rate increase of 25.72%.²³ The total increase amounted to 41.5%.

The November 5, 2018 Order describes the PSC’s concerns about the Martin District:

Martin District currently operates in a constant state of emergency and its ratepayers are suffering the dire consequences of decades of poor choices made by its management and commissioners. As a direct result of years of incompetent management and inept decision makers, Martin District’s ratepayers have either deficient water service or no water service at all.²⁴

Because of those extraordinary circumstances, the PSC also ordered a “structured plan..[in] an attempt to save Martin District from collapse.”²⁵ That “structured plan” includes a requirement that the Martin District retain an outside company to provide all operational management services to the district by the end of 2019. The PSC also ordered an additional \$3.16 per customer per month

“Management and Infrastructure surcharge” that is to go into effect after the retention of the management company. The surcharge is to pay “in whole or in part” the compensation of the management company.²⁶

The PSC acknowledged that it “seems counterintuitive”²⁷ to raise rates for customers who are not receiving safe and sufficient water services. Still yet, the orders raised the minimum bill in 2018 from \$26.50 to \$37.51,²⁸ an increase of 41.5%. If the Management and Infrastructure surcharge is put into effect, the minimum rate will increase to \$40.67, a total increase of 53.5%.²⁹

The Martin District is currently in contract negotiations with the sole company that submitted a bid to take over the district’s operations and management. The PSC has recently reiterated its position that if the district does not enter a contract with the company that submitted a bid, it will cancel the \$4.19 per customer debt service surcharge.³⁰

The Water District’s Customer Base

Based on U.S. Census estimates, the estimated population of Martin County is 11,232, living in 4,316 households.³¹ The U.S. Census estimates the population of Martin County has decreased 12.4% since the last census, when the population was counted at 12,929.³² The county’s median household income is \$29,239. Approximately 35.8% of the population lives in poverty.³³ 24.6% of the population under the age of 65 is disabled.³⁴ 11% of Martin County residents receive SSI.³⁵

Further, recent data on trends in employment income compared to non-labor income in the county demonstrate that labor earnings in the county are in steep decline. Less income is coming from wage labor where rates of pay tend to increase from year to year. According to the U.S. Bureau of Economic Analysis, from 2000-2017, labor earnings in Martin County decreased 19.3%, while non-labor income increased 34.4% (age-related government payments such as Social Security increased 64% and hardship-related government transfers increased 49%).³⁶ Likewise,

according to the Bureau of Labor Statistics, employment in Martin County decreased by 32% from July 2010 to July 2019.³⁷

The data suggest that more people are depending on income that will continue to be stagnant into the future.

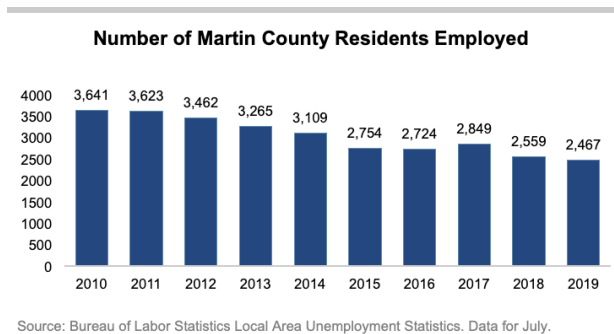


Figure 1: Number of Martin County Residents Employed 2010-2019³⁸

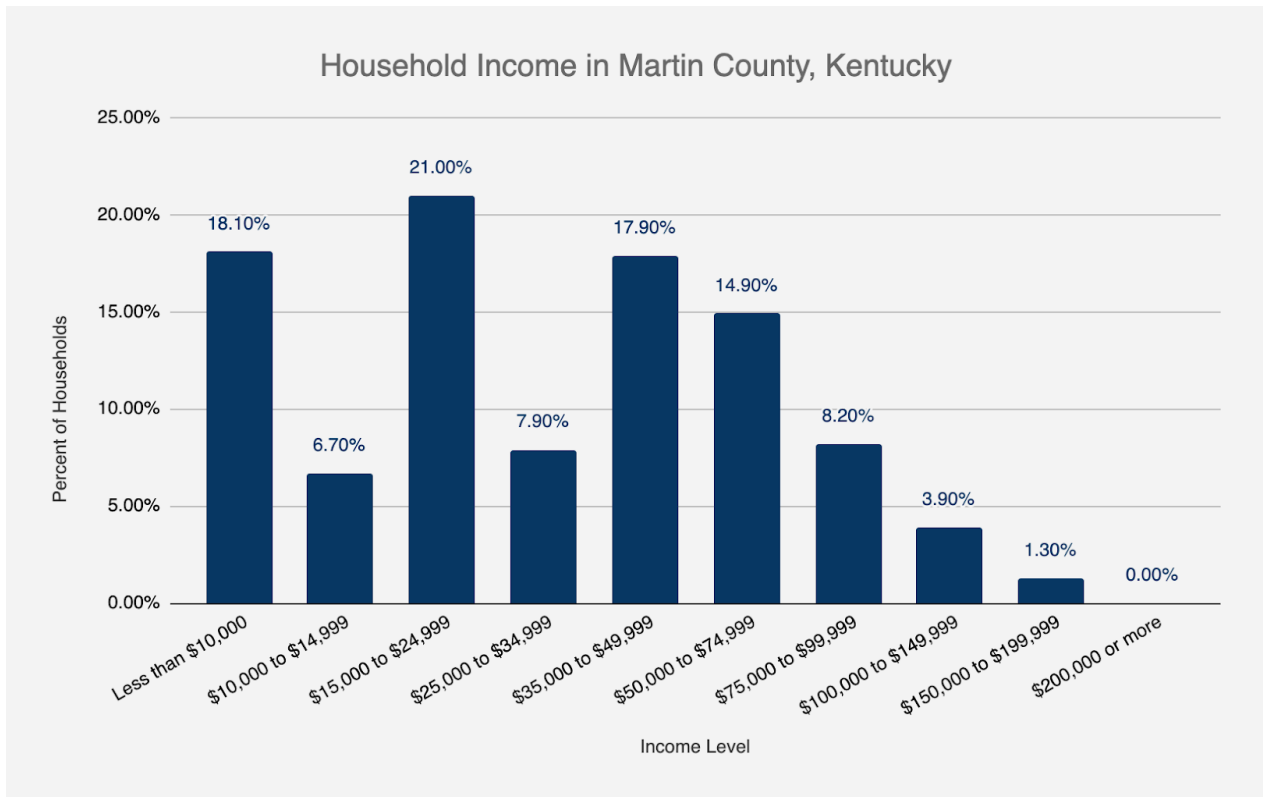


Figure 2: Household Income in Martin County, Kentucky. Data from Census FactFinder 2013-2017 Estimates.

Water Burden in Martin County

In granting the second rate increase of 2018, the PSC articulated its charge saying that it “is statutorily authorized to foster safe and reliable service at a reasonable price, while also providing for the financial stability of the utility by setting a fair and just rate to support its operations.”³⁹

What constitutes a reasonable price cannot be determined without an understanding of whether the price is affordable for the district’s customers.⁴⁰

This report presents an affordability analysis of water rates for different income levels in Martin County. We designed this affordability analysis based on the work of Roger Colton, who has done similar analyses in Baltimore⁴¹ and Southeast Michigan.⁴²

In this Report, whether or not water is affordable is determined by each household’s “water burden,” or the percent of a household’s income spent on its water bill. The EPA considers a drinking water burden of 2.5% or above to be unaffordable.⁴³ This Report adopts the EPA standard for determining affordability.

Based on this Report’s analysis, water is currently unaffordable for over 45.8% of Martin County households.

This Report presents the water burden for Martin County households in ten income brackets. It compares income levels to the typical household

Income Level	% of Households at Income level	Current Rate
Less than \$10,000	18.10%	6.53% - >6.53%
\$10,000 to \$14,999	6.70%	4.35% - 6.52%
\$15,000 to \$24,999	21.00%	2.61% - 4.35%
\$25,000 to \$34,999	7.90%	1.86% - 2.61%
\$35,000 to \$49,999	17.90%	1.30% - 1.86%
\$50,000 to \$74,999	14.90%	0.87% - 1.30%
\$75,000 to \$99,999	8.20%	0.65% - 0.87%
\$100,000 to \$149,999	3.90%	0.43% - 0.65%
\$150,000 to \$199,999	1.30%	0.33% - 0.43%
\$200,000 or more	0.00%	<0.33% - 0.33%

Table 1: Water Burden in Martin County, KY at Current Water Rates⁴⁶

For 18.1% of Martin County households with incomes below \$10,000 per year, the water burden is much higher than the EPA threshold for affordability. Households making just under \$10,000 per year pay 6.24% of their annual income for their water bills, more than two times higher than the 2.5% affordable water burden.

bill of \$54.37 for 4,000 gallons of water per month.⁴⁴ Table 1 below shows the water burden at the current rate for the ten income ranges reported, using a typical water bill. Water burdens in excess of the 2.5% standard used for affordability are in red. This analysis shows that approximately 1,977 households in Martin County (45.8% of households) have an unaffordable water bill. At the current rates, only households with incomes at \$26,100 or higher have affordable water bills, or water burdens less than or equal to 2.5%.⁴⁵

For many of the county’s 1,229 SSI recipients, water is even more unaffordable. If we assume that a disabled SSI recipient lives alone, is a typical customer using 4,000 gallons a month, and receives the average SSI payment of \$681.90 per month,⁴⁷ they would spend 7.97% of their income on water - over three times the affordable burden. If this customer received a minimum water bill (currently set at 2,000 gallons for \$37.51), they would pay 5.5% of their monthly income on water, more than twice the affordable burden.

16% of household water meters in Martin County were disconnected between July 2018-June 2019.

The district’s water disconnection activities also demonstrate the unaffordability of current rates. From July 2018 to June 2019, the district disconnected 511 meters and reconnected 394.⁴⁸ That is a shutoff rate of 16%.⁴⁹ In comparison, the average large water utility nationwide disconnected only 5% of its residential customers in 2015.⁵⁰ Further, the district reports that it sent 300 disconnect notices in July 2019.⁵¹ Disconnections further exacerbate the problem of affordability, as customers are required to pay a \$40 disconnect fee and an additional \$40 fee to reinstate their service.⁵²

Case Study: Timmy Smith



Timmy Smith, 54 years old, lives in the house he grew up in, nestled on the eastern Kentucky hillside up a steep gravel driveway. He sits on a bench out on his back porch, with his mother's wind chimes that line the porch ringing in the wind, and remembers the games he grew up playing in the woods around his house. His playground included two coal mines and a coal preparation plant next door, about 500 feet from his home, owned by local operators and Massey Coal Company. It operated from 1965 to 1995. His father dug coal underground at the mine for 23 years.

Timmy remembers the time in the late 70s, when his family's well, and all of his neighbors' wells went dry. The families all lost their wells in the same afternoon, and it was clear to all that it was because of the mining on the nearby ridge. None of them were compensated for their loss, but instead were hooked up immediately to the county's water system, the county's preferred way of dealing with wells sunk due to mining.

While the mines are long gone and the prep plant has been closed since 1995, Timmy and his family still suffer from the consequences of the mining so close to their home. The foundation of his house is unstable and his favorite fishing spots have not been fishable since the 2000 coal slurry spill.

Timmy is disabled and relies on the \$771 monthly income he receives through social security. He currently struggles to cover his expenses with this amount, and is terrified of another water rate increase.

Expenses	Cost
Water	\$38.51
Electricity	\$120.00
Garbage Pickup	\$14.95
Phone bill	\$57.00
Burial Insurance	\$19.00
911 & Fire tax	\$8.75
Groceries	\$367.79
Personal Hygiene	\$20.00
Transportation	\$40.00
Money orders, payment fees, postage	\$10.00
Home repairs/maintenance/cleaning supplies:	\$75.00
Total Monthly Expenses	\$771.00

Table 2: Case Study Monthly Expenses, SSI Recipient

As all of Timmy's income is allocated to monthly expenses, he has no extra spending money and very little wiggle room for unexpected or additional expenses. Another rate increase would mean hard choices for Timmy - choices that include whether to pay his water bill or buy groceries or medicine. Timmy cannot afford another rate increase, but he also cannot afford to go without running water. If it were up to Timmy, he would still be using his well water - water he remembers as some of the best he has ever had.

Another Rate Increase?

The Martin District faces a major dilemma. The district currently does not have the revenue needed to pay a management company, and the potential additional \$3.16 surcharge is likely not enough to pay the contract costs.⁵³

At this point, no one knows what level of rate increase will be needed if the district follows the PSC's order and signs a contract with the sole company that submitted a bid to take over daily operations.⁵⁴ However, if that happens, a third increase is inevitable.

Yet, customers are already struggling to pay for water after the 2018 rate increases. Faced with the possibility of another impending rate increase, a number of the Martin District's current customers have written to the PSC expressing their frustrations.

Customer Kim C. explains the difficulty of paying current water bills and the added hardship that a rate increase would bring with it:

I live in Inez, KY...and [am] on a fixed income, I barely make it from month to month now. If it wasn't for RAMP⁵⁵ or other places giving out food and sometimes water, I and others in this county would not make it. So if our water bills go up, I like many would have to have it disconnected because I could not afford it. If this county keeps raising rates, fees and taxes, I will have to move out of the county I love and was raised in.⁵⁶

Ruth Crum, another customer, expresses a similar sentiment:

Our bills are already around \$81.00 or higher a month. We are on Social Security, we can't afford higher water bills...Our income doesn't go up. Most people in the county are on a fixed income. If they raise

our water bill, we will disconnect our city water.⁵⁷

While the additional revenue required to meet contract negotiations with a private management company is as of yet unknown, the water burden for various levels of possible rate increases for a typical household are demonstrated in Table 3 on the following page. Again, water burdens above 2.5%, which are considered unaffordable, are shown in red.



The Teamsters delivering donated bottled water to Martin County. Photo by author, April 7, 2019.

Drinking Water Affordability Crisis Martin County, Kentucky

Income Level	% of House holds	Current Rate	\$3.16 Surcharge	25% or \$12.55 Increase	30% or \$15.05 Increase	40% or \$21.75 Increase	50% or \$27.19 Increase	75% or \$37.64 Increase	100% or \$50.18 Increase
Less than \$10,000	18.10 %	≥6.53%	≥6.90%	≥8.16%	≥8.48%	≥9.14%	≥9.79%	≥11.42%	≥13.05%
\$10,000 to \$14,999	6.70%	4.35% - 6.52%	4.60% - 6.90%	5.44% - 8.16%	5.65% - 8.48%	6.09% - 9.13%	6.52% - 9.79%	7.61% - 11.42%	8.70% - 13.05%
\$15,000 to \$24,999	21.00 %	2.61% - 4.35%	2.76% - 4.60%	3.26% - 5.44%	3.39% - 5.65%	3.65% - 6.09%	3.91% - 6.52%	4.57% - 7.61%	5.22% - 8.70%
\$25,000 to \$34,999	7.90%	1.86% - 2.61%	1.97% - 2.76%	2.33% - 3.26%	2.42% - 3.39%	2.61% - 3.65%	2.80% - 3.91%	3.26% - 4.57%	3.73% - 5.22%
\$35,000 to \$49,999	17.90 %	1.30% - 1.86%	1.38% - 1.97%	1.63% - 2.33%	1.70% - 2.42%	1.83% - 2.61%	1.96% - 2.80%	2.28% - 3.26%	2.61% - 3.73%
\$50,000 to \$74,999	14.90 %	0.87% - 1.30%	0.92% - 1.38%	1.09% - 1.63%	1.13% - 1.70%	1.22% - 1.83%	1.30% - 1.96%	1.52% - 2.28%	1.74% - 2.61%
\$75,000 to \$99,999	8.20%	0.65% - 0.87%	0.69% - 0.92%	0.82% - 1.09%	0.85% - 1.13%	0.91% - 1.22%	0.98% - 1.30%	1.14% - 1.52%	1.30% - 1.74%
\$100,000 to \$149,999	3.90%	0.43% - 0.65%	0.46% - 0.69%	0.54% - 0.82%	0.57% - 0.85%	0.61% - 0.91%	0.65% - 0.98%	0.76% - 1.14%	0.87% - 1.30%
\$150,000 to \$199,999	1.30%	0.33% - 0.43%	0.35% - 0.46%	0.41% - 0.54%	0.42% - 0.57%	0.46% - 0.61%	0.49% - 0.65%	0.57% - 0.76%	0.65% - 0.87%
\$200,000 or more	0.00%	≤0.33%	≤0.35%	≤0.41%	≤0.42%	≤0.46%	≤0.49%	≤0.57%	≤0.65%
Percent of Households with Unaffordable Water Bills		>45.80%	>45.80%	>45.80%	>45.80%	>53.70%	>53.70%	>53.70%	>71.60%

Table 3: Water Burden in Martin County for Various Rate Increases

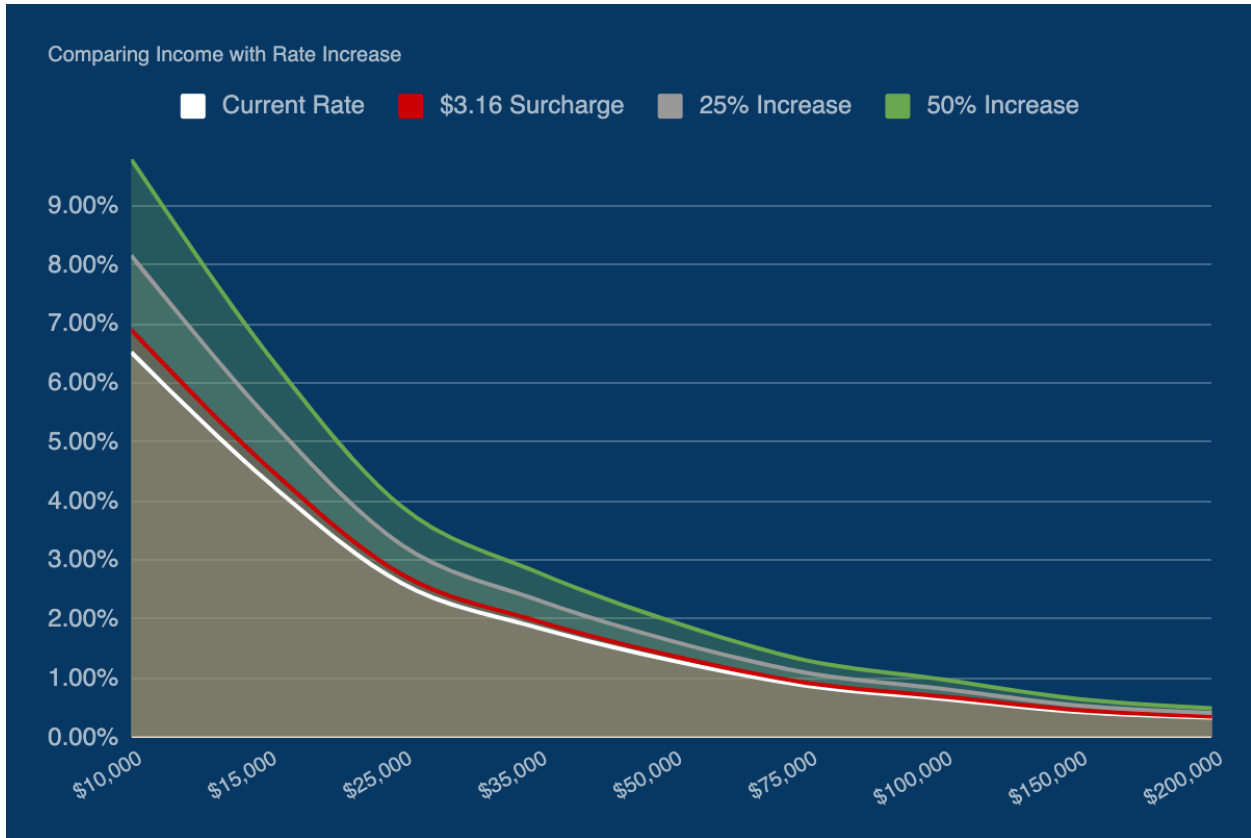


Figure 3: Water Burden in Martin County, Kentucky

As demonstrated in Figure 3, any rate increase would affect low income residents the most.

A household with an income greater than \$52,195 will have an affordable water bill even if rates increased by 100%. For families with household incomes below \$15,000 (24.8% of the population) even a 25% increase would result in a water burden that is over twice the affordability standard. This translates into real hardship for low-income residents in Martin County, who do not have extra funds to allocate toward additional rate increases.

Figure 4 demonstrates the percentage of households in Martin County with unaffordable water bills at the current rate and at various levels of rate increases (where water burden is greater than 2.5%).

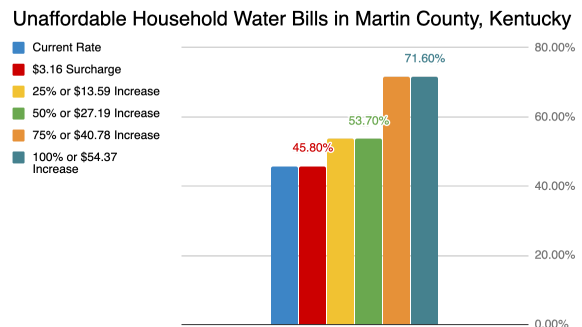


Figure 4: Unaffordable Household Water Bills in Martin County, Kentucky

The high water burden already faced by over 45.8% of Martin County residents, as well as the downward trajectory of the economy in Martin County, demonstrate that Martin County residents simply cannot afford another rate increase.

How Martin County stats compare to other rates in the state

Based on the cost of a typical household water bill using 4,000 gallons, out of the 141 districts, associations, and privately owned water companies regulated by the PSC, Martin County currently has the eighth highest water bill in Kentucky.⁵⁸

If a \$10 rate increase were to go into effect, **Martin County’s average household bill would become the highest in the state**, for water that many residents feel is unsafe to consume.

If average bill is calculated by county (in counties with multiple water districts, each district’s water bill was averaged), Martin County has the third highest average water bill at \$54.37, for water districts regulated by the PSC. The county with the lowest water bill, \$21.09, is Edmonson County.⁵⁹

Martin County’s average monthly water bill is 63.4% higher than in Edmonson County, the Kentucky county with the lowest water bill. See Figure 5 for a map of average water bills by county.

To compare water burden across Kentucky, water burden was calculated for each county using average water bill and median income.⁶⁰ See Figure 6 for a map of water burden for each Kentucky county with data reported. Breathitt County has the highest water burden at 2.7%, and Martin County has the second highest at 2.4%. Oldham County has the lowest water burden at 0.37%.

Water customers in Martin County are spending 75% more of their income on water bills than in Oldham County.

	Water District	Current Price for 4000 gallons
1	Caldwell County Water District	\$64.29
2	Rattlesnake Ridge Water District	\$62.52
3	Southern Water & Sewer District	\$58.82
4	Corinth Water District	\$58.81
5	Breathitt County Water District	\$58.19
6	Judy Water Association Inc.	\$56.78
7	Crittenden-Livingston County Water District	\$56.03
8	Martin County Water District	\$54.37
9	West Carroll Water District	\$51.77
10	Western Mason County Water District	\$51.40
11	Eastern Rockcastle Water Association	\$51.34
12	Sandy Hook Water District	\$50.95
13	Letcher County Water and Sewer District	\$50.00
14	North Marshall Water District	\$50.00
15	Bracken County Water District	\$49.11
16	Parksville Water District	\$48.65
17	Cannonsburg Water District	\$48.41
18	Peaks Mill Water District	\$48.02
19	Todd County Water District	\$48.00
20	East Clark County Water District	\$47.94

Table 4: Twenty Highest Water Bills in Kentucky

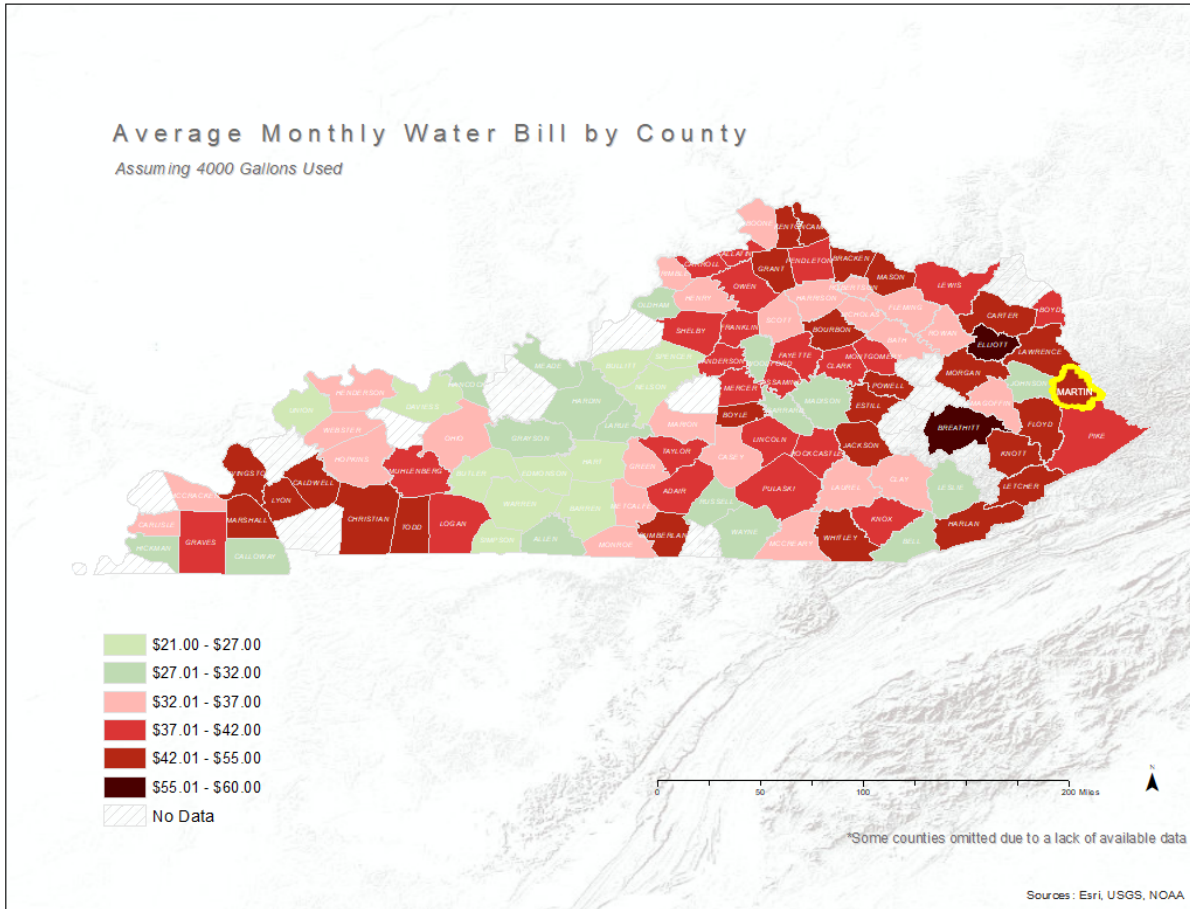


Figure 5: Average Monthly Water Bill by Kentucky County.

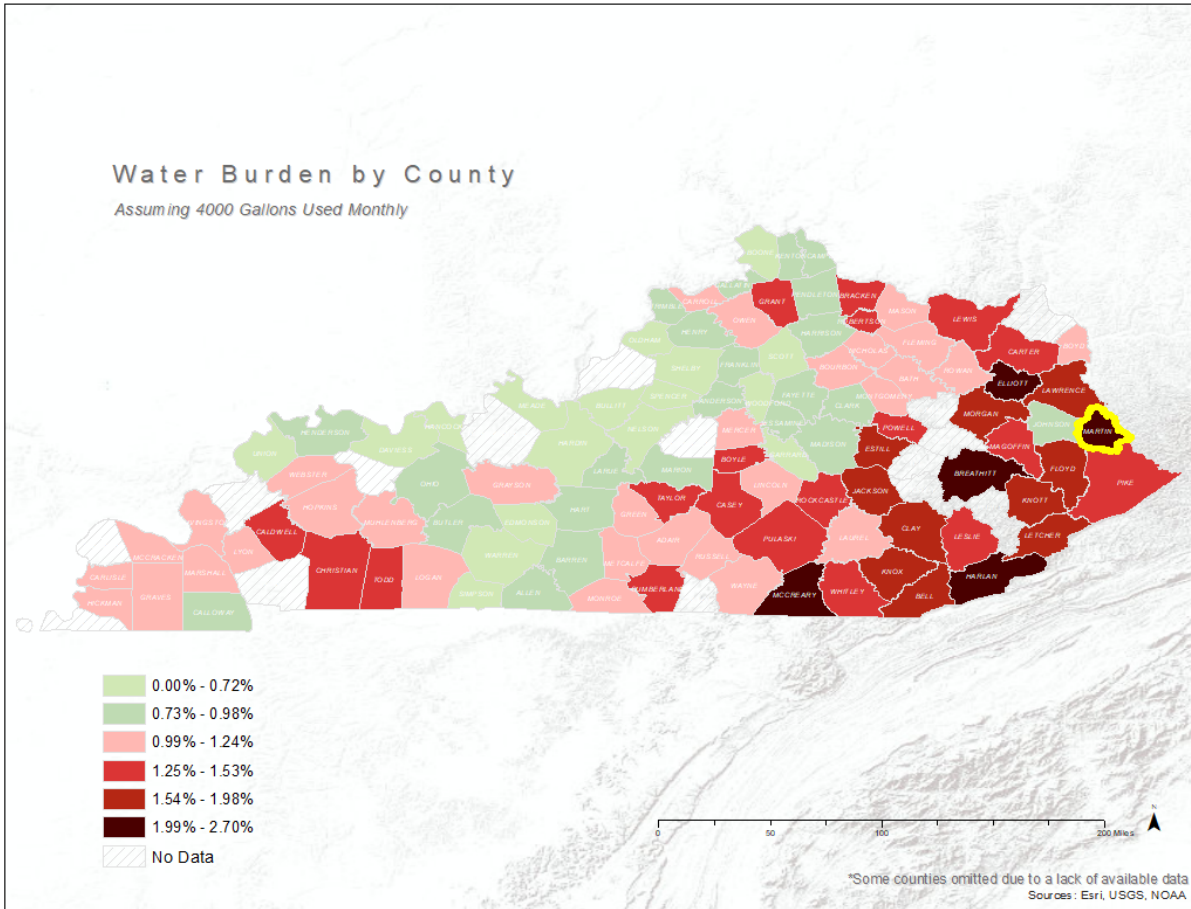


Figure 6: Average Monthly Water Bill by Kentucky County.

Conclusion

As demonstrated above, Martin County’s water safety and water quantity crises have now translated into a water affordability crisis that threatens the financial well-being of this already economically stressed region. Clearly, the Martin County Water District cannot provide the quality and quantity of water to which citizens have a right without additional resources for desperately needed improvements in capital, management, and operations. However, water is already unaffordable for many residents of Martin County, and additional rate increases will be unaffordable for the majority of the county’s residents. Resolving this dilemma requires that the PSC and the Martin District consider ways of meeting the district’s revenue requirements that do not rely exclusively on residential rate

increases. Simply put, **local families cannot afford to pay the full cost of water system improvements.** Further, it is unfair to burden residents with costs that result from years of unchecked neglect and mismanagement, particularly as residents are suffering the health and financial consequences of decades of unsafe drinking water.

Immediate action is required to address the current water affordability crisis, to mitigate concerns about drinking water quality, and to avoid a deeper long-term water affordability crisis. While offering definitive solutions is outside of the scope of this report, we would like to

conclude with several suggestions for alternative courses of action that warrant further study.

First and most importantly, Martin District customers cannot afford another rate increase. If the contract with Alliance Water Resources requires an additional rate increase, it should not be entered. Rather than hire a management company to take over the district's daily operations, the district should hire a qualified general manager.⁶¹

Second, all federal grant funding should be directed toward the most immediate needs of the water district - including fixing service and main water lines. While \$7.23 million in federal funding for Martin County was recently announced,⁶² most of that funding is being misdirected toward projects that do not serve the majority of residents in Martin County.⁶³

At a recent Martin County Concerned Citizens meeting on September 12, 2019, residents expressed their dissatisfaction with more federal funding going to a mostly empty industrial park in the county, and advocated instead for the money to be used to fix water lines. Fixing water lines will address the Martin District's water loss rate that contributes to higher costs of service as well as water quality issues.



Martin County Concerned Citizens Meeting, September 12, 2019. Photo by Roger Smith, The Mountain Citizen

Third, we urge the state legislature to appropriate funds for rebuilding Martin County's water infrastructure in the 2020 budget.

Fourth, protections need to be put in place to protect the county's most vulnerable residents. All such programs should be designed with input from county residents and address the particular issues facing the district and the county. Examples of such customer protection programs could include (1) policies and procedures to protect seniors, those with serious medical conditions, and those with young children from water shut offs;⁶⁴ (2) development and funding of a Customer Assistance Program that could provide a lifeline for customers facing disconnection and could help customers pay for meter replacements.; and (3) development of a senior discount program.

Fifth, we urge the district and the PSC to explore alternative rate structures that could alleviate the burden of high water bills for its most vulnerable customers. For example, it may be prudent to explore lowering or eliminating the minimum usage⁶⁵ and lowering the base rate accordingly.⁶⁶ Or, it may be prudent to consider adjusting rates for the district's commercial and industrial customers.

Sixth, the PSC must consider affordability when setting public utility rates. Under Kentucky law, the water district must provide "adequate, efficient, and reasonable service" at "fair, just, and reasonable rates." We believe that for a rate to be considered "reasonable," it must be affordable for ratepayers in the district.

Martin County Concerned Citizens and the Appalachian Citizens Law Center remain committed to working with the Public Service Commission, the Martin County Water District, and Martin County residents to advocate for and realize Martin County residents' right to clean and affordable drinking water.

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Endnotes

- ¹ Public Service Commission, Case 2018-00017, Order entered November 5, 2018, https://psc.ky.gov/pscscf/2018%20Cases/2018-00017//20181105_PSC_ORDER.pdf, at 4-5.
- ² Wright, Will, "Kentucky's 'worst' water system might be only weeks away from collapse," Lexington Herald-Leader, January 26, 2018; Jarvie, Jenny, "The water runs milky and can feel like fire. In this impoverished county, Trump's \$1.5 trillion infrastructure plan may not help," Los Angeles Times, February 12, 2018; Lonsdorf, Kat, "You Just Don't Touch That Tap Water Unless Absolutely Necessary," National Public Radio, October 3, 2018.
- ³ The first major failure occurred in January 2018 when the intake pump stopped functioning, causing the district to shut off water to much of the county for days. See Wright, Will, "Kentucky's 'worst' water system might be weeks away from collapse," Lexington Herald-Leader, January 26, 2018; and Wright, Will, "These Kentuckians had no water for weeks. Now officials want to raise rates by half," Lexington Herald-Leader, January 25, 2018. Then in October 2018, the reservoir into which water from the intake is pumped reached a critically low level. Parts of the county were without water for several days. The Martin District spent \$100,000 attempting to repair the intake pump before deciding to rent two temporary pumps at a cost to the Martin District of about \$18,000 a month. Since then, the Martin District has relied on rented pumps or rainwater to fill the reservoir. Wright, Will, "State of emergency declared as Kentucky town's water reservoir runs dangerously low," Lexington Herald-Leader, September 23, 2018.
- ⁴ 2018-19 Water Loss Reports for Martin County Water District as reported to the PSC, available at <https://www.dropbox.com/sh/tdx1zg8omych8uv/AA8p8CD9M4I0ZMe-waNxMiPia?dl=0>. Data for April was not provided.
- ⁵ Based on data received from the Martin District, as of August 2019, it served approximately 3,350 residential customers with meter sizes less than 1" and approximately 55 customers with meter sizes from 1" to 4." See February to July 2019. Usage Data provided by MCWD to MCCC, available at <https://www.dropbox.com/sh/73ym1x57nmj5kve/AA8WdnvaG76151Jrs5jW3TsDa?dl=0>.
- ⁶ As of August 31, 2019, the district had an Aged Payable balance of \$840,541.88, with \$790,266.21 over 90 days past due. See Martin County Water District, "Notice of Filing Information," Correspondence to Public Service Commission, September 16, 2019: 89. https://psc.ky.gov/pscscf/2018-00017/cumbolaw%40cumbolaw.com/09162019093622/09.16.19_Filed_Monthly_Rquirements.pdf.
- ⁷ See Kentucky Division of Water Incident Report for the Martin County Water District as of May 7, 2019, at https://www.dropbox.com/sh/5cofrk7jxbo2o71/AAAbQA65EUnEiO1W_NrPqbdXa?dl=0.
- ⁸ Regulated disinfection byproducts include total haloacetic acids (HAA5) and trihalomethanes (TTHM). According to the EPA, "[s]ome disinfectants and disinfection byproducts (DBPs) have been shown to cause cancer and reproductive effects in lab animals and suggested bladder cancer and reproductive effects in humans." EPA, Comprehensive Disinfectants and Disinfection Byproducts Rules (Stage 1 and Stage 2): Quick Reference Guide," available at https://archive.epa.gov/enviro/html/icr/web/pdf/qrg_st1.pdf, last visited September 25, 2019.
- ⁹ The EPA compiles information, including violation history, on all public water systems on its Safe Drinking Water Information System Database (SDWIS). <https://www3.epa.gov/enviro/facts/sdwis/search.html>. The database includes violation history for Martin County Water District from 2010 to the present. The data show that the district was out of compliance for the disinfection byproducts total haloacetic acids (HAA5) and trihalomethanes (TTHM) for nearly every quarter from 2010 until the second quarter of 2017. The district has not reported any Safe Drinking Water Act violations since the second quarter of 2017. See MCWD Report, SDWIS Search Results, September 25, 2019, at https://www.dropbox.com/s/g36qgz41mk3f6n9/SDWIS%20MartinCounty-violation_report.xlsx?dl=0.
- ¹⁰ Notice on the back of a water bill provided by Nina McCoy, Martin County Water District customer and chairperson of Martin County Concerned Citizens.
- ¹¹ McSpirit, Stephanie, Duane Gill, Sharon Hardesty, and Dewayne Sims., "Risk Perceptions after a Coal Waste Impoundment Failure: A Survey Assessment," Southern Rural Sociology, 22.2 (2007): 83-110.
- ¹² Becker, Benny, "Troubled waters: A coalfield county loses trust in water and government," WPFL-89.3 FM News Louisville, January 30, 2017.
- ¹³ Screenshot of Kentucky Drinking Water Branch Violations. https://www.dropbox.com/sh/ockqba1nu5ehgh8/AAA8waZ-_FEfyRrboaN6_rbfa?dl=0.
- ¹⁴ Jason Unrine and Wayne Sanderson are currently partnering with Martin County Concerned Citizens to carry out the "Community-Engaged Appalachian Drinking Water Health Effects Study" in Martin County, to study the health effects associated with the drinking water system through randomized tap water testing and health questionnaires. At the time of this report, 70 out of 100 total homes have been sampled. Final results expected to be published in December 2019.

- ¹⁵ Jarvie, Jenny, “The water runs milky and can feel like fire,” L.A. Times, February 12, 2018. <https://www.latimes.com/nation/la-na-kentucky-water-20180212-story.html>; Baptiste, Nathalie, “Their water became undrinkable. Then they were forced to pay for it,” Mother Jones, November 20, 2018. <https://www.motherjones.com/environment/2018/11/when-water-in-this-impovertised-county-became-undrinkable-residents-were-ordered-to-pay-more-for-it/>.
- ¹⁶ Becker, Benny, “Troubled waters: A coalfield county loses trust in water and government,” WPFL-89.3 FM News Louisville, January 30, 2017.
- ¹⁷ KRS 278.030(1)-(2).
- ¹⁸ The capital needs of the district are generally accounted for through funded depreciations. In reality, the district has relied almost exclusively on federal grants to fund capital improvements.
- ¹⁹ KRS 278.040(2).
- ²⁰ Martin County Water District, ARF Application, January 16, 2018. https://psc.ky.gov/pscscf/2018%20cases/2018-00017//20180116_Martin%20County%20Water%20District%20Application.pdf.
- ²¹ Public Service Commission, Case 2018-00017, Order entered November 5, 2018: 13-14. https://psc.ky.gov/pscscf/2018%20Cases/2018-00017//20181105_PSC_ORDER.pdf.
- ²² Public Service Commission, Case 2018-00017, Order entered March 16, 2018. https://psc.ky.gov/pscscf/2018%20Cases/2018-00017//20180316_PSC_ORDER.pdf.
The PSC ordered the surcharge to address the district’s substantial Accounts Payable balance. At the January 26, 2018 hearing, the district reported its last accounted Accounts Payable at \$808,209. The ordered surcharge is applied to the Accounts Payable as of April 1, 2018. Despite having paid on its past due balances since that ruling using the surcharge revenue, the district last reported its Accounts Payable at \$944,583.15. See Martin County’s “Notice of Filing Information,” Correspondence to Public Service Commission, August 15, 2019: 81. https://psc.ky.gov/pscscf/2018-00017/cumbolaw%40cumbolaw.com/08152019082332/08.15.19_Filed_Monthly_Requirement.pdf.
- ²³ Public Service Commission, Case 2018-00017, Order entered November 5, 2018. https://psc.ky.gov/pscscf/2018%20Cases/2018-00017//20181105_PSC_ORDER.pdf.
- ²⁴ Ibid: 4-5.
- ²⁵ Ibid: 6.
- ²⁶ Ibid: 22.
- ²⁷ Ibid: 6.
- ²⁸ The \$37.51 minimum bill includes the \$4.19 monthly debt service surcharge.
- ²⁹ Ibid: 20. The increase for what the PSC considers a “typical” household using 4,000 gallons per month is slightly different. For those customers, the PSC Order states that the total increase with the debt service surcharge is 36.27%. If the M&I surcharge goes into effect, the “typical” household’s increase will be 44.19%.
- ³⁰ Public Service Commission, Case 2018-00017, Order entered June, 24, 2019. https://psc.ky.gov/pscscf/2018%20Cases/2018-00017//20190624_PSC_ORDER.pdf.
- ³¹ United States Census Bureau, Quick Facts. <https://www.census.gov/quickfacts/fact/table/martincountykentucky,US>, last visited September 25, 2019.
- ³² Ibid.
- ³³ Ibid.
- ³⁴ Ibid.
- ³⁵ Social Security Office of Retirement and Disability Policy, “SSI Recipients by State and County, 2017.” https://www.dropbox.com/sh/nyhi863feeiwuzs/AADfTKe3yD1LMtkBTqG_Bz14a?dl=0.
- ³⁶ U.S. Department of Commerce. 2018. Bureau Economic Analysis, Regional Economic Accounts, Washington, D.C. reported by Headwaters Economics Profile System, headwaterseconomics.org/eps, available at <https://www.dropbox.com/s/t33wgrmiu93mxfr/Socioeconomic%20measures%20Martin%20County%20%281%29.xlsx?dl=0>.
- ³⁷ Bureau of Labor Statistics Local Area Unemployment Statistics, “Employment: Martin County, KY,” <https://beta.bls.gov/dataViewer/view/timeseries/LAUCN211590000000005>, last visited September 25, 2019.
- ³⁸ Ibid. Figure provided by the Kentucky Center for Economic Policy.
- ³⁹ Public Service Commission, Case 2018-00017, Order entered November 5, 2018, https://psc.ky.gov/pscscf/2018%20Cases/2018-00017//20181105_PSC_ORDER.pdf, at 11 (emphasis added).
- ⁴⁰ The PSC’s legal position is that it cannot consider affordability when setting rates. See e.g., PSC Supplement Brief with Exhibits: 17-18. <https://www.dropbox.com/s/02rs2mg4ytudd78/PSC%20Supplement%20Brief%20with%20Exhibits.pdf?dl=0>.
- ⁴¹ Colton, Roger, Baltimore’s Conundrum: Charging for Water / Wastewater Services that Community Residents Cannot Afford to Pay, November 2018 (Revised), available at <https://www.dropbox.com/s/9aavz32h94w7g76/Baltimore%20water%20study--Revised%20Final%20Report--11-20-18.pdf?dl=0>.

⁴² Colton, Roger, Affordable Water Service for Southeast Michigan: The Economics of Addressing an Income-Based Rate System, May 2019, available at <https://www.dropbox.com/s/939jfk3wuugg88/IWRAP%20Roger%20Colton%20Report%20to%20Mott%20Fnd%20-%20May%202019.pdf?dl=0>.

⁴³ See e.g., EPA, Announcement of Small System Compliance Technology Lists, 62 Fed. Reg. 42,026, 42,046 Aug. 6, 1998. <https://www.govinfo.gov/content/pkg/FR-1998-08-06/pdf/98-21032.pdf> (using the national-level 2.5% affordability threshold for drinking water in determining what compliance technologies are affordable). The EPA uses the affordability threshold of 2.5% of median household income when assessing treatment costs required to meet drinking water standards. The Environmental Economics Advisory Committee of the EPA's Science Advisory Board has stated that 2.5% threshold is too high, especially for small rural water systems struggling with costs (Ibid: 19). The American Water Works Association is also critical of the EPA's use of the affordability threshold as not being sufficient to capture impacts across different income levels. See <https://www.awwa.org/Portals/0/AWWA/ETS/Resources/AffordabilityAssessmentTool.pdf>. Therefore, this report calculates water burden at various income levels in order to assess affordability.

⁴⁴ PSC defines a "typical customer" as a household using 4,000 gallons (see Public Service Commission, Case 2018-00017, Order entered November 5, 2018: 20.

https://psc.ky.gov/pscscf/2018%20Cases/2018-00017//20181105_PSC_ORDER.pdf). The current rate includes the rate increases imposed by the PSC in 2018, as well as the \$4.19 per customer per month Debt Service surcharge. The current rates do not include the \$3.16 Management and Infrastructure surcharge, as that is not yet in effect.

⁴⁵ The actual water burden is likely to be significantly higher than reported; because, as noted earlier, many residents do not trust the quality of the water and instead use bottled water for drinking and cooking.

⁴⁶ Percentage of households at each income level is based on 2013-2017 Estimates, in 2017 inflation-adjusted dollars. We did not adjust for 2019 inflation, because it is not clear that household income in Martin County is increasing with inflation.

⁴⁷ Social Security Administration, "SSI Annual Statistical Report - Recipients of Social Security, SSI, or Both," (2017): 42. https://www.ssa.gov/policy/docs/statcomps/ssi_asr/2017/sect03.pdf.

⁴⁸ See, MCWD Non-payment Disconnect/Reconnect Report July 2018 to June 2019, at

<https://www.dropbox.com/s/a2m0hs3pv7pysn6/July%202018%20-%20Jun%202019%20disconnects.pdf?dl=0>.

⁴⁹ The percentage is derived based on a customer count of 3,243, which is the number of customers listed in the PSC Order of November 5, 2018. Public Service Commission, Case 2018-00017, Order entered November 5, 2018: 14.

https://psc.ky.gov/pscscf/2018%20Cases/2018-00017//20181105_PSC_ORDER.pdf.

⁵⁰ Food & Water Watch, "America's Secret Water Crisis: National Survey Reveals Water Affordability Emergency Affecting Millions," Oct. 2018, at 4-5, at

https://www.dropbox.com/s/0jkiqrs1axmm7y0/rpt_1810_watershutoffs-web2.pdf?dl=0.

⁵¹ For evidence of the district's increased disconnection activity, see MCWD's pending disconnects reports for July and August 2019, at

<https://www.dropbox.com/s/r2yzbr25c3bc96a/2019%20Jul-Aug%20Disconnect%20reports%20provided%202019-09-10.pdf?dl=0>.

⁵² Public Service Commission, Martin County Tariff: 11.

<https://www.psc.ky.gov/tariffs/Water/Districts.%20Associations.%20%26%20Privately%20Owned/Martin%20County%20Water%20District/Tariff.pdf>.

⁵³ Even after the two rate increases in 2018, it is clear that the district cannot pay the management company using its current revenue. The \$3.16 per customer per month surcharge that will go into effect when the contract with the management company is accepted will generate between \$120,000 and \$125,000 per year in additional revenue. That amount will be insufficient to pay the contract costs of having a private, for-profit management company take over operations of the district. When it became apparent that the additional revenue needed to hire Alliance Water Resources would result in a substantial rate increase, MCCC proposed allowing the district to use the \$3.16 Management & Infrastructure to fund a full-time qualified, experienced general manager, which the district currently does not have. See

https://psc.ky.gov/pscscf/2018-00017/mary%40appalachianlawcenter.org/06042019113341/2019-05-31_ltr_board_re_GM.pdf.

⁵⁴ Martin County Water District, "Notice of Filing Information," Correspondence to Public Service Commission, June 3, 2019.

https://psc.ky.gov/pscscf/2018-00017/cumbolaw%40cumbolaw.com/06032019115625/06.03.19_Filed_REDACTE_D_NOF_evaluation_of_Alliance_proposal.pdf.

The one bid was submitted by Alliance Water Resources of Missouri. See <https://alliancewater.com>.

⁵⁵ RAMP is a nonprofit that provides free food to many residents of Martin County. See <http://www.rampamerica.org>.

⁵⁶ Kim C., Public Comment PSC Case 2018-00017, June 13, 2019, Accessed August 21, 2019.

https://psc.ky.gov/pscscf/2018%20cases/2018-00017/Public%20Comments//20190613_Kim%20C.%20Public%20Comment.pdf.

⁵⁷ Ruth Crum, Public Comment PSC Case 2018-00017, June 17, 2019, Accessed August 21, 2019. https://psc.ky.gov/pscscf/2018%20cases/2018-00017/Public%20Comments//20190617_Ruth%20Crum%20Public%20Comment.pdf.

⁵⁸ PSC, "Districts, Associations & Privately Owned Water Utilities Tariffs Library," Accessed August 21, 2019. <https://www.psc.ky.gov/Home/Library?type=Tariffs>.

To determine the cost of a 4,000 gallon/month water bill, each water district's tariff was reviewed and the stated rates were used to calculate the cost of a 4000 gallon bill for each district.

⁵⁹ In counties with more than one water district the average monthly water bill was calculated by finding the mean reported price for 4,000 gallons of water from each individual water district represented in that county.

⁶⁰ Water burden for each county was calculated using median household income by county and the average annual water bill. Median household income was divided by average annual water bill to find the percentage of their median household income which a resident may expect to pay on water based on the county they live in.

⁶¹ For a more detailed explanation of Martin County Concerned Citizens' position, see https://psc.ky.gov/pscscf/2018-00017/marty%40appalachianlawcenter.org/06042019113341/2019-05-31_ltr_board_re_GM.pdf.

⁶² Rogers, Hal, "[Gov. Bevin, Congressman Rogers Announce \\$7.23 Million in Grants to Address Water Issues, Economic Development in Martin County](https://www.kentucky.com/news/politics-government/press-releases/article235027732.html)," Press release, September 5, 2019.

<https://halrogers.house.gov/press-releases?ID=6FE0A8EA-3F6D-41B6-9F03-9311A58FD870>.

⁶³ McCoy, Nina, "Corporate welfare leads to widespread injustice in Martin County, over and over again," Lexington Herald, September 13, 2019. <https://www.kentucky.com/opinion/op-ed/article235027732.html>.

⁶⁴ The district currently has a policy of granting a 30-day extension on termination if the customer presents a medical certificate. Martin County Water District Tariff: 32.

<https://www.psc.ky.gov/tariffs/Water/Districts.%20Associations.%20%26%20Privately%20Owned/Martin%20County%20Water%20District/Tariff.pdf>.

⁶⁵ Minimum usage under the current tariff is based on the first 2000 gallons used per month. Martin County Water District Tariff: 8.

<https://www.psc.ky.gov/tariffs/Water/Districts.%20Associations.%20%26%20Privately%20Owned/Martin%20County%20Water%20District/Tariff.pdf>.

⁶⁶ According to the American Community Survey, of Martin County's estimated 4316 households, 1233 are 1-person households. U.S. Census Bureau, 2013-17 American Community Survey 5-Year Estimates, Occupancy Characteristics, available at [productview.xhtml](https://data.census.gov/tables//2019/acs/5yrr/S0101), last visited September 25, 2019. It is reasonable to assume that many within that 28.5% use less than 2,000 gallon per customer minimum and could benefit from a rate structure that did not have a 2,000 gallon minimum.