Flowing Forward: Funding the Future of Water and Sewer Systems

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SUMMARY

Should your water and sewer bill keep going up?

In January of this year, the residents of Clearlake in nearby Lake County awoke to raw sewage flowing down roadways, across fields, and into drainage ditches and waterways.[1]

In March of this year, Alderpoint County Water District residents learned that they were in danger of losing all water and sewer services as a result of an unpaid bill of over $14,000 from PG&E.[2]

What do these two fiascos have in common? Both are due to chronic failures to raise water and sewer rates to meet the rising costs of providing the services.

For 13 years, the Fortuna City Council chose not to raise water and sewer rates. Instead, they took “belt-tightening” measures to allow them to continue to provide services without raising rates. By not contributing to reserves, delaying water and sewer rehabilitation projects, and forcing their Public Works Department to operate without adequate staff, they managed to squeeze by for years…until they couldn't.

In April 2024, the Fortuna City Council adopted a recommended rate increase from their first rate study since 2006 hitting residents with a 20% rate increase in each of the following three years. By June 30, 2029, the water and sewer rates will roughly double compared to the old rates.

[1] Clearlake Sewage Overflow, January 2026

[2] When the Water Stops: One Rural Community's Crisis and the National Problem Behind It

Other communities have recognized the need for continual improvement of their services and so have continuously raised rates to meet rising costs. Consistent rate increases reduce the likelihood of sticker shock such as a 20% increase imposed on Fortuna residents in 2024.

The McKinleyville Community Services District (MCSD) has adopted a more proactive stance toward its water and wastewater management.

By implementing regular rate increases, MCSD created a robust fiscal structure and has a water/wastewater budget that is 46% higher than Fortuna's. In addition, MCSD actively pursues additional funding resources, such as grants. With its larger budget, MCSD can focus more on optimizing its water/wastewater infrastructure with upgrades and replacements. Meanwhile, Fortuna is struggling to escape the "break and fix" cycle they created.

No one likes paying higher water and sewer bills, but if a community wants to have safe and reliable water and sewer services, the answer is clear. As water and sewer operating costs continue to rise, yes, your water and sewer bill should keep going up.

BACKGROUND

Water and sewer services are essential to most households and businesses in the nation. The rates for these resources vary greatly by location for complicated reasons that can frustrate consumers in understanding how rates are determined and why they change. Monthly water and sewer costs, explained simply, can vary depending on location, usage, and provider. Many factors and considerations affect these rates such as:

1) Who provides your water and sewer services?

   Water services may be provided by a municipality, a Community Service District, or a private company. Your sewer service may be provided by the same agency, or it may come from another entity. Even if there are two separate providers, you

may receive a single bill. For instance, the McKinleyville Community Service District bills residents for both water and sewer, but the water supplier is actually Humboldt Bay Municipal Water District.

2) Wastewater and sewer systems face different types of challenges and therefore have different rate factors.

   The terms sewage and wastewater are often used interchangeably, but distinguishing between the two is essential to understanding how rates are determined.

   Wastewater is a general term for used water discharged from various sources, such as households, industries, and commercial businesses. It also includes agricultural runoff and stormwater. It contains materials considered to be pollutants that are harmful to humans and the environment. The main components of the pollutants include nutrients, heavy metals, oil, grease, pathogens, pharmaceuticals, and other chemicals.

   By contrast, sewage is a specific type of wastewater that contains human feces and other domestic waste from toilets. Sewage has further different categories: black water which comes from the toilet, and grey water which is all other domestic wastewater not from a toilet.

   Wastewater treatment is more complex than sewage treatment because it must handle a broader range of contaminants and uses a multi-stage process to eliminate them. Sewage consists mainly of organic matter and pathogens; treating this type of effluent involves a more biological process.

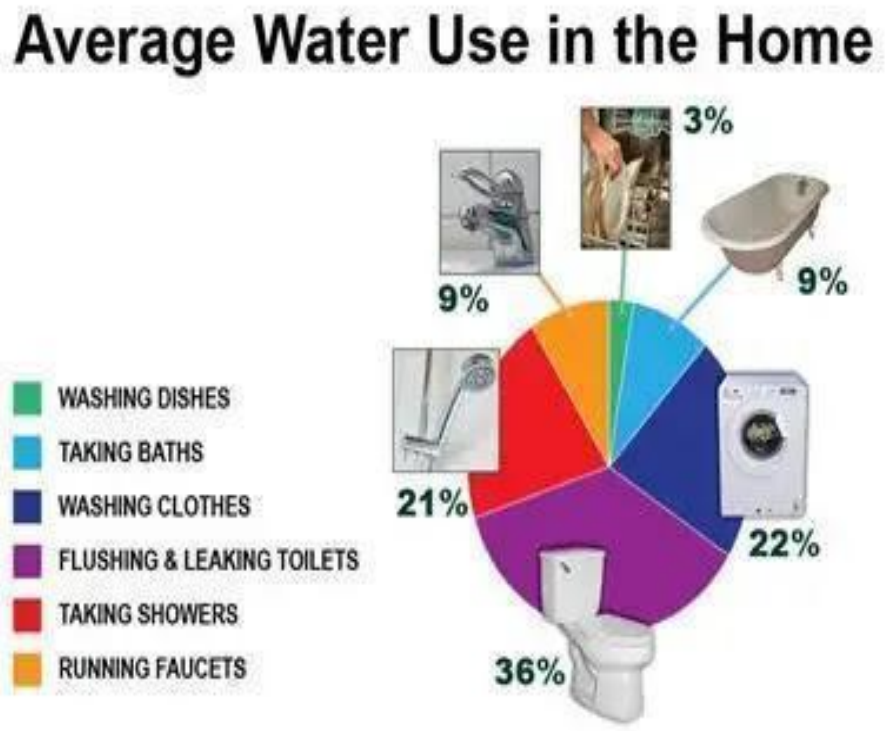
   Although commercial enterprises are a large customer base for utilities, this report focuses on household water and sewage use.

3) Location and population: Where you live affects the rate you pay for water and sewer.

   Living in a small rural community means the cost of water and sewer is shared across a small consumer base.[3] Unless customers in these types of communities band together, the cost for repairs is often higher per person compared to those in more populated areas. Rural residents pay approximately three to four times as much for services compared to residents of densely populated areas.

4) Usage: Water usage varies based on household size and lifestyle.

   The average American uses between 80 and 100 gallons of water per day. The following chart shows a breakdown of daily usage.[4]

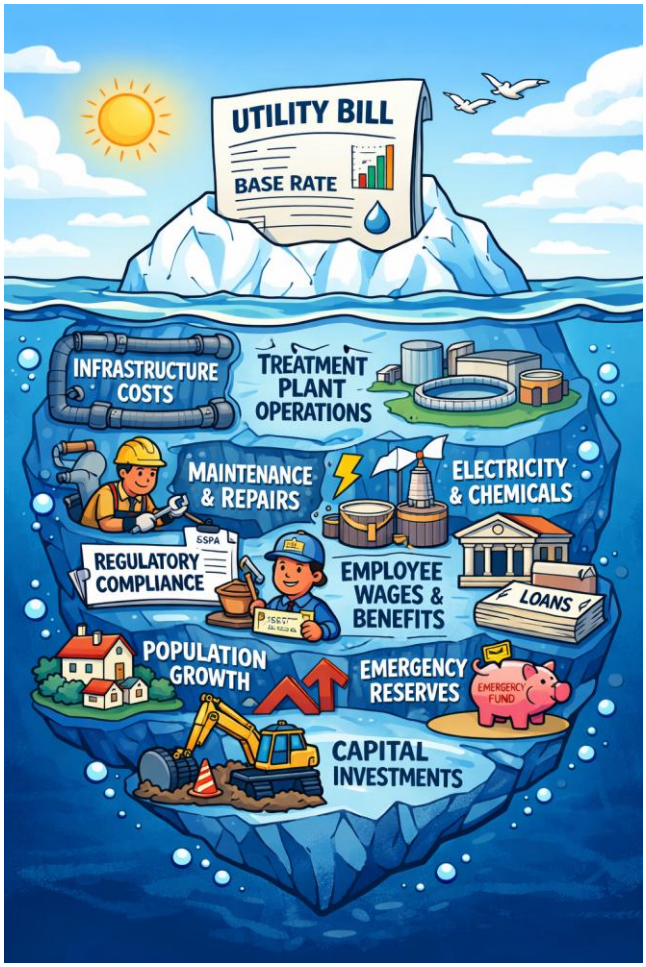


[3] Rural and Small Systems Guidebook to Effective Utility Management
[4] PBS Learning Media

The final household water and sewage rates are based on several components:

- Base rate - a fixed monthly charge that covers maintaining infrastructure like pipes, meters, and treatment facilities.
- Tiered billing - different rates are charged depending upon consumption.
- Summer and winter rates - higher rates are charged in summer because of higher water usage, lower rates are charged in the winter months because of lower water usage.
- Sewer rates - this is the cost of removing and treating sewage wastewater from a household.

The above information is a simple explanation of the cost factors affecting water and sewage rates. The following graphic illustrates some of the elements considered in rate setting.



Factors Affecting Your Bill

The cost to provide water and sewer services described above is not the sole determinant of how much you pay each month. A lengthier and more detailed description of the complex and often confusing process of setting rates is found in Appendix A. The following is a brief outline of additional factors which affect your bill.

$ ***Operational Costs*** - costs for maintenance, plus water and sewer infrastructure

$ ***Regulatory Compliance-*** refers to growing costs associated with water and wastewater treatment. There are numerous regulations with which to contend. Key categories are:

- Permitting
- Treatment standards
- Monitoring and reporting
- Public health and
- Environmental protection

Smaller water and sewer agencies are particularly challenged by the cost of ever-changing regulations imposed by state and federal entities.

The advanced technology required to meet each new set of refined standards is expensive. The result is continually rising capital and operating costs. Spreading these costs across a small customer base can be particularly shocking, and a water agency may try to gradually increase rates rather than recover the cost all at once. Balancing the need to provide affordable rates to their community while maintaining financial sustainability can be difficult.

Factors such as aging infrastructure, population size, and climate risks (drought or flooding) vary considerably by region.

$ ***Infrastructure*** – the age and composition of the pipes matter:

- Many of the pipes within Humboldt County's communities are as old as their Victorian Houses.
- A substantial number of water and sewer pipes in some communities are made from clay or asbestos cement. Both have exceeded their lifespan.

- The older the pipe, the greater the chances of breaks and failure.[5]

$ ***Geographic and Demographic***

Humboldt County has a number of small and rural water and sewer systems. There are not enough rate payers to generate the resources needed to build and maintain large infrastructure projects.

$ ***Environmental***

The shifting landscape of climate change, marked by more severe droughts, floods, and wildfires, creates substantial hazards for the state's water and wastewater infrastructure. These environmental pressures further exacerbate existing difficulties in managing groundwater resources and ensuring every community has fair access to reliable, low-cost drinking water.[6]

$ ***Inflation***

Inflation has a profound effect on water and sewer systems, directly affecting rates and improvement project costs. Rising construction and operational costs play a major role in increased rates. Avoiding those rate increases is often the reason an agency may defer maintenance.

$ ***Studies and Plans*** - plans identify the crucial needs of a water and sewer system, such as improvement upgrades, maintenance costs, and expansion.

Rate studies and a variety of plans and other studies are often performed by either third-party entities or committees of budget/finance officers, public works officials, and community organization members. The cost in completing a study/plan varies depending on the time and the complexity of the entity.

Data collection and analysis are essential in making informed decisions. They are also an important step for obtaining funding.

$ ***Capital Reserves***

There is no single law that requires a water or wastewater facility to maintain a capital reserve. However, Sections 20200–20220 of the California Water Code

[5] The EPA estimates that $1.26 trillion is needed over the next 20 years to address water and wastewater infrastructure to ensure the safety of drinking water and waterways nationally.

[6] https://water.waterboards.ca.gov/climate/

require facilities to be financially responsible for adequate funds for capital improvement plans.

$ ***Funding Gap***

Fees based on water and sewer usage alone do not meet the financial needs of water and sewer systems.

Funding to cover the gap between revenue obtained by agencies and the cost of maintaining adequate capital reserves can come from loans, grants and issuing bonds. Several Humboldt communities have been aided in paying for improvements using these sources, but they are increasingly reliant on loans and bonds because the federal grants allocated in the 1970s and 1980s are no longer available.

$ ***Loans***- money borrowed from a lender that must be repaid with interest

Some help subsequently came in the form of low-cost loans through the federal or state government. As this funding was composed of loans rather than grants, many entities amassed millions of dollars of debt which needed to be repaid. Such loans placed an additional burden on water and sewer agency finances.

Now, with federal loans and financial resources dwindling, funding is not keeping pace with water and sewer infrastructure needs. Each year, more and more of the money spent on water and sewer systems comes from local government rather than grants and loans. Entities need to increase rates and seek other funding. Repayment is tied to the utility's operating income.

Clean Water State Revolving Fund[7] - uses federal, state, and other programs to provide low-interest loans for waste water and sewer projects.
The rates can vary, and amounts can be limited depending on the organization's ability to pay back. Replacing millions of dollars of infrastructure for a disadvantaged or rural community can be prohibitively costly.

- Arcata sought and received assistance from this fund. The City of Arcata's $67 million upgrade of its Wastewater Treatment plant was partially funded through the Clean Water State Revolving Fund. Additional funding came from FEMA grants and Community Development Block Grants.

[7] Clean Water State Revolving Fund (CWSRF) | US EPA

Drinking Water State Revolving Fund[8] - supports projects by providing financial assistance to public water systems to improve water quality and infrastructure, including the construction and upgrade of drinking water facilities.

- Myers Flat is considered to be a small, seriously disadvantaged community. The Myers Flat Mutual Water System, Inc. applied for and was granted assistance from this fund. It received a two-million dollar grant to replace 6,600 feet of deteriorated and undersized mainlines, plus the replacement of valves, fire hydrants, and meters.

$ ***Grants*** - funds provided to support particular projects; these do not need to be paid back

Proposition 84[9] - established comprehensive funding to address environmental and public infrastructure issues.

- Big Lagoon utilized this funding resource. Big Lagoon Community Service District, with the technical assistance of the North Coast Resource Partnership, was able to replace two 5,000-gallon water tanks with a single 60,000-gallon steel tank funded by Proposition 84. The community now has enough water to ensure coverage of maximum daily usage and to handle outages due to natural disasters or other emergencies.

Federal Emergency Management Agency (FEMA) - provides assistance and technical guidance

FEMA provides public assistance designed to help communities with their water and wastewater infrastructure projects. Funding is available for disaster damage-related projects, but also for effective hazard mitigation measures.

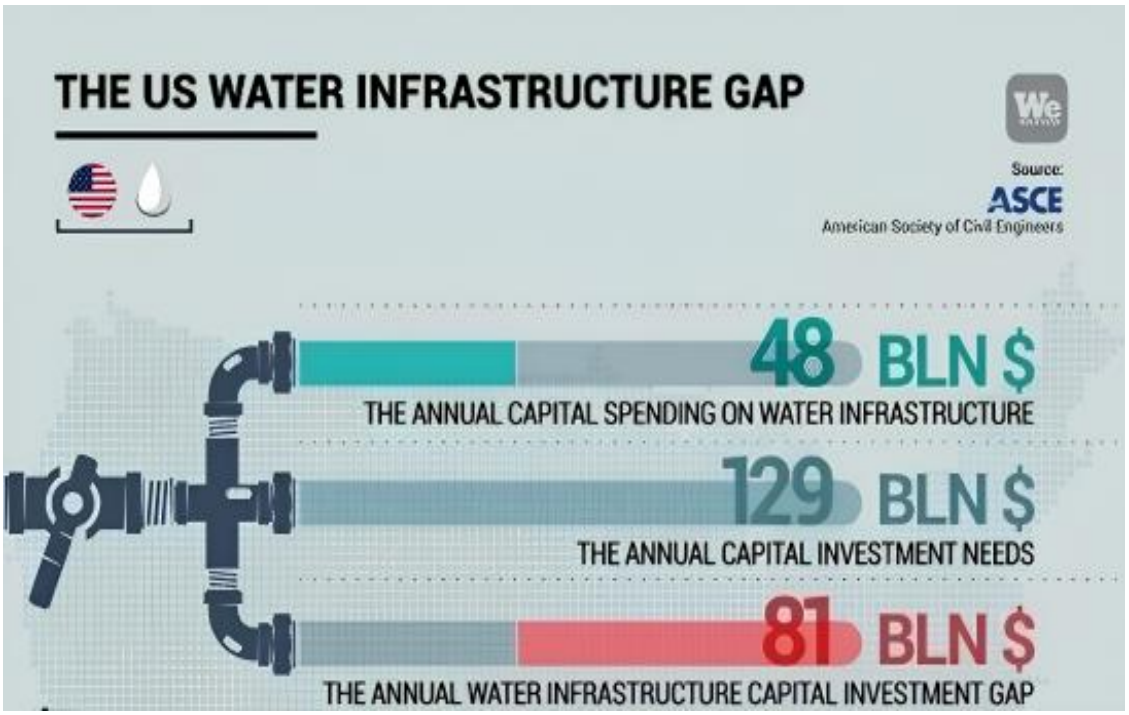
$ ***Reduced Federal Assistance***

Across the board, state and federal funding has been reduced and remains insufficient to meet the needs of the United States' water and sewer systems. It is incumbent on service providers to recognize that future increases to funding from these sources seem unlikely.

[8] EPA Drinking Water State Revolving Fund
[9] Proposition 84 - CNRA Bond Accountability

Figure 1 illustrates the growing gap between government funding and local entity funding needs.[10]

Figure 1. The Gap Between Funding and Needs



$ *Bonds*

Bonds are a form of municipal debt backed by specific revenues generated from water and sewer service bills, not by the municipality's general tax revenues.[11]

Community Outreach

Effective communication is important for any agency or business. Frequent interactions with the community help maintain transparency and invite responsiveness. This is an important factor for water and sewer entities. Communication builds a bridge between the agency and its customers, helping to address concerns and educating the public. The following suggestions were the result of a workshop on communication and affordability.[12]

[10] A $50 billion Investment to Protect Water Resources
[11] How Revenue Bonds Work
[12] Enhancing Communications and Outreach Efforts in Water and Wastewater Affordability

Building better communication involves the following:

- Creating water and sewer bills that are easy to understand by showing clear cost breakdowns as separate line items with biannual rate updates
- Educating customers to provide clear and easy to understand information on topics like pipes, conservation, rate studies, water safety and reliability, etc.
- Offering events and campaigns using themed programs and events to raise awareness and engage communities
- Using a multimedia strategy utilizing both traditional and digital resources to reach all customers
- Encouraging interactive dialogue which makes it easy for customers to ask questions and participate

A Tale of Two Cities - History and Analysis of Water and Wastewater Systems

The financial condition of a water and wastewater utility can greatly affect its effectiveness and flexibility in responding to the needs of its service community. The two entities below have taken a different approach with respect to funding, attempting to balance future needs with affordable rate increases.

The McKinleyville Community Service District serves about 6,600 customers and has a 4% yearly growth rate. In 1972, the district constructed a system-wide distribution center and started serving water. MCSD acquires its water wholesale from the Humboldt Bay Municipal Community Service District. This water is piped under the Mad River to the Grant A. Ramey Pump Station.

The City of Fortuna provides both water and sewer services to 5,005 customers with a 0.85% decrease in growth rate. Both water and sewer systems are under the management of the Public Works Department. Water is collected from five groundwater wells on Eel River Drive, treated on site and stored in five city reservoirs. Fortuna's wastewater is treated at the Tom Cooke Memorial Wastewater Treatment Plant, which has an aerobic digester and an onsite testing laboratory and scientist.

Comparing the two water/sewer entities

The following tables compare key operational, planning, and financial characteristics of the McKinleyville Community Services District (MCSD) and the City of Fortuna Municipal utility systems. The comparison highlights differences in system size, customer growth trends, rate-setting practices, capital planning, staffing levels, and infrastructure age (Figure 2). Understanding these factors provides important context for evaluating each utility's service demands, operational capacity, and long-term infrastructure investment needs.

Figure 2. Comparing McKinleyville and Fortuna Water/Sewer Systems

Category	McKinleyville CSD	Fortuna Municipal
Water/Sewer Connections	6,600	5,005
Growth Rate	4% increase	0.85% decrease
5 yr Rate Study Done	2022	2024
Consistency of Rate Study	every 5 years	18-year gap
Capital Improvement Plan	10yr plan; updated 2025/2026	5yr plan; adopted 2025
Water & Sewer bill per month	$115.86	$97.67
Staff Work week	40 hours	34 hours
Number of Staff	18	6-7
Infrastructure: pipes age	50	60+
Water Quality (CA ranking)[13]	#155 out of 694 cities	#489 out of 694 cities

Overall, the comparison indicates that McKinleyville CSD operates a larger utility system with a growing customer base, more staffing resources, and a structured approach to long-term planning through regular rate studies and a comprehensive capital improvement program.

The years listed in figure 3 correspond to the last water rate study (MCSD in 2022 and Fortuna in 2024) and recommended increases over the five-year period examined in

[13] WaterVerge Interactive Water Quality Lookup

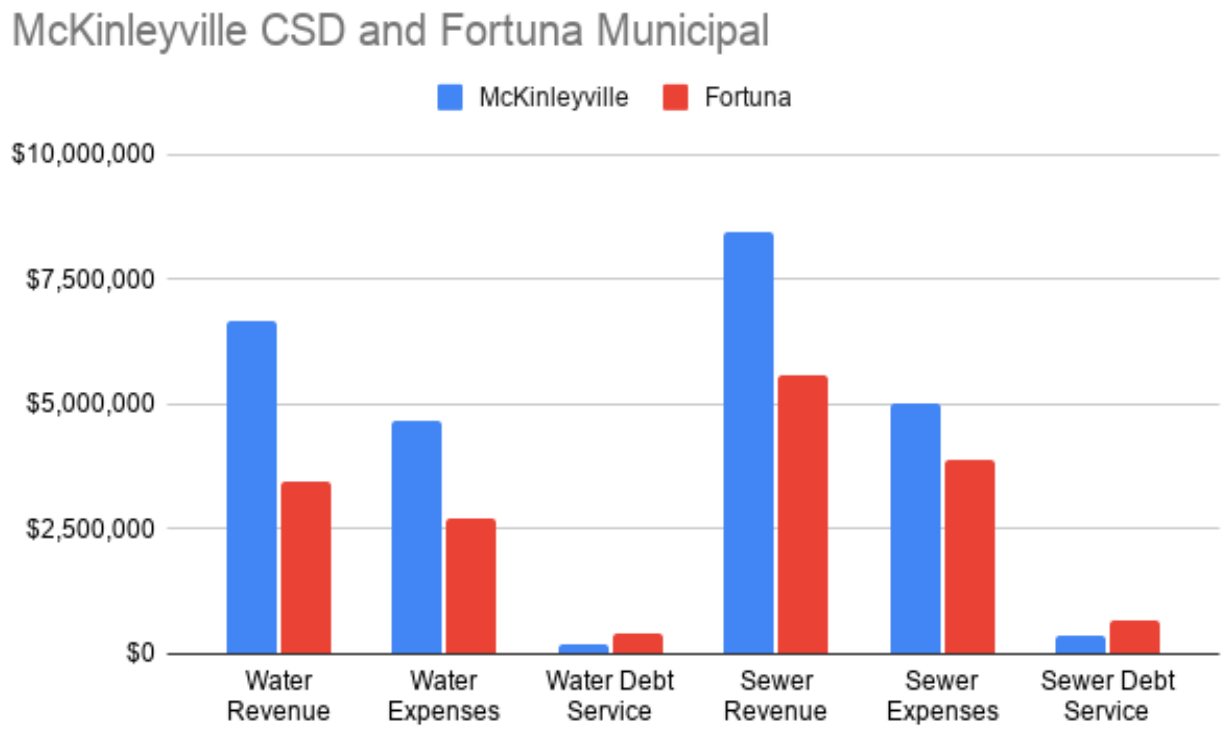
each study. The slow and steady increases for MCSD contrast considerably with those of Fortuna.

Figure 3. Water Rate Comparison between McKinleyville and Fortuna

MCSD Rate Increases[14]				
FY 2022-2023	FY 2023-2024	FY 2024-2025	FY 2025-2026	FY 2026-2027
3.2%	4.0%	5.0%	5.0%	5.0%

Fortuna Rate Increases				
FY 2024-2025	FY 2025-2026	FY 2026-2027	FY 2027-2028	FY 2028-2029
20.0%	20.0%	20.0%	15.0%	5.0%

Figure 4. Revenue, Expenses, and Debt Service Comparison between McKinleyville and Fortuna



[14] McKinleyville Community Services District FY 2025-2026 Budget

See Appendix B for more information on the Fortuna and McKinleyville water and sewer systems.

METHODOLOGY

The Grand Jury conducted extensive interviews with people who have direct knowledge of regional and local water and wastewater systems and agencies. We conducted a site visit of a wastewater treatment facility and witnessed each stage of the treatment process. The Grand Jury reviewed laws and regulations governing water and wastewater, as well as the regulatory entities that oversee them. We researched staffing, budgets, customer bills, water and sewer rates, local, state, and federal resources, treatment processes, and the challenges that water and wastewater systems face.

DISCUSSION

On Sunday morning January 11, 2026, the residents of Clearlake in nearby Lake County awoke to raw sewage flowing down roadways, across fields, and into drainage ditches and waterways. Following a prolonged rainfall, the soil had become heavily saturated, increasing groundwater pressure around buried utilities. Severe weather is a factor over which communities have no control. However, Clearlake had a long-standing issue they could have controlled but chose not to: maintenance of their sewer lines. The rates paid over many years by users of this district were insufficient to update or replace aging sewer lines, resulting in the January sewage system failure.

Closer to home, residents in the Alderpoint County Water District, located in the southeast corner of Humboldt County, learned in March of this year that they were in danger of losing all water and sewer services as a result of an unpaid bill of over $14,000 from PG&E.[15] Despite cost increases to provide and maintain water and

[15] When the Water Stops: One Rural Community's Crisis and the National Problem Behind It

sewage service, the water district has not increased rates since 2014. The result: insufficient funds to repair or replace aging water and sewer lines or pay the electric bill.

One result of neglecting infrastructure in Alderpoint is that 75% of the water being pumped from the district's wells is lost before it reaches consumers. Leakage in pipes and lack of equipment either to locate or fix leaks means most water is lost before it reaches houses and businesses. Consequently, the district's water pumps work constantly, driving up electricity costs. Pumps will stop working if the bill to PG&E is not paid. Having no water could require county environmental health officials to "red tag" structures. If this happens, residents cannot lawfully continue to live in their homes and buildings, a result no one ever wants.

In June 2026, Shelter Cove citizens will vote on increasing their annual water and wastewater fee by $60. The increased request is the result of Shelter Cove spending more money for system maintenance than they collected in revenue. The water and sewer system has run a deficit of approximately $40,000 in each of the past 10 years. According to the general manager of the district, even a fee surcharge of $60 will not fully fund everything needed for system upkeep due to years of deferred maintenance.[16]

It is understandable that rate payers are unhappy when notified of a proposed increase in fees for the same level of service. No one wants to pay more when there is no change in service, but the cost of providing that exact same service increases every year.

Costs increase for several reasons. Infrastructure is costly to repair and replace, and deferring maintenance only means projects will cost more when they are finally undertaken. Changing regulations necessitate costly system upgrades. Inflation causes operational costs to rise even if the level of services does not change. Conservation measures adopted during droughts or other natural disasters can reduce revenues, causing a district to fall further behind.

[16] Why is Shelter Cove Asking its Residents to Approve a Tax Increase?

The process of determining the rates necessary to maintain and upgrade infrastructure relies on a cost analysis performed by a third-party consultant. In this rate study, the consultant quantifies the total revenue a district needs compared to expected expenses. The consultant proposes a rate structure, separating customers into classes and allocating costs based on their impact. Next, with public input, the Board of Directors of that district or municipality reviews and adopts the proposed rates to cover the costs of providing service. Finally, new rates are implemented following notification to users. The new rates usually incorporate annual increases because the costs of maintaining and upgrading the system rise each year.

The Grand Jury's decision to examine the issue of water and wastewater costs was prompted by complaints received from several Fortuna residents. The complaints alleged rate increases in 2024 were excessive and therefore illegal. Upon investigation, this complaint was unfounded as the City of Fortuna completed a rate proposal study, had a public comment period, and passed legislation affirming the new rates.

Although the implementation of rate increases in Fortuna followed proper procedures, it was evident that there was a lack of public understanding regarding how rates are determined. Looking solely at Fortuna as an example of how rates are determined can present a distorted picture. The cost of providing water and wastewater services and how these services are funded varies widely between different districts and municipalities. The Grand Jury therefore decided to compare two public works entities: The City of Fortuna and the McKinleyville Community Service District (MCSD).

These districts differ in some important aspects starting with the actual water supply: Fortuna utilizes five wells to produce water while MCSD purchases water from the Humboldt Community Services District. McKinleyville has more businesses than Fortuna, so there is a potential source of greater income. Both however must adequately fund and maintain their systems to provide clean drinking water and sewer services to customers. Each must have the fiscal ability to maintain and ensure upgrades. The funding needed to pay for increasing salaries, pipe replacement and

repair, and equipment replacement and maintenance have increased significantly over the past 20 years.

A review of these utilities showed each to be currently working diligently to provide necessary services to their respective communities. Both appear to have competent leadership and a plan for continuing to provide needed services. Fortuna, however, faces special challenges due to a history of inadequately maintaining its system.

Fortuna: Still playing catch-up

The need for improvements is evident when considering that most pipes used to carry water and wastewater in Fortuna were installed in the 1950's and 1960's. The life expectancy of these pipes is typically around 50 years. The likelihood of failure such as leaks or breaks grows more and more with passing years. With a fixed budget, higher maintenance costs leave less money for upgrading water and sewer systems.

Rate studies are generally conducted every five years. Fortuna conducted a five-year water rate study in 2006 with proposed rate increases adopted by the City Council beginning that July. The rates increased annually until the end of June 2011. In 2011, the City Council decided not to do a rate study. Instead, it elected to make no changes to rates despite steadily increasing expenses for its water and wastewater system. Other than a connection fee increase in 2012, rates remained fixed until 2024.

Fortuna's next water rate study was completed in 2024,[17] a gap of 18 years. Rate hikes recommended in the study were adopted effective July 2024. At that time the City Council of Fortuna approved rate increases of 20% in 2024, 2025, and 2026 followed by 15% in 2027 and a further 5% in 2028. These increases were necessary because revenue had not increased in the preceding 13 years while operating costs steadily rose. The lack of additional revenue during this period put Fortuna "behind the 8-ball."

[17] 2024 Fortuna Water & Wastewater User Rate Study

The failure to keep pace with rising costs was explicitly noted in the opening paragraph of the 2024 water rate study:

> "*Both the water and wastewater systems need capital improvements to replace aging infrastructure or to comply with treatment regulations. The City has managed the utility's increasing costs with a revenue stream that has not increased at the same rate as its costs. The most recent change to the City's water and wastewater rates occurred in 2012.*[18] *From 2012 to 2024, the California Construction Cost Index (CCI) and the California Consumer Price Index (CPI) have increased approximately 70 percent and 39 percent, respectively.*"

When rates remain stagnant for years, new customers pay a disproportionate percentage of current rates. Over the five-year period ending on June 30, 2029, rates will have doubled for Fortuna customers (a 108% increase). That is a 16% increase per year if the increases were the same each year. However, consumers who have been customers since 2011 benefited from 13 years with no increases. For them, a 108% increase spread evenly over the full 18-year period would have required just a 4% increase each year. Any who became and remained customers between 2011 and 2024 effectively paid an increase of more than 4% but less than 16%. The more years you are a customer, the less the five years of increases really costs you. Newer customers are, in effect, subsidizing long-term customers.

The graph in Figure 5 was included in Fortuna's 2024 water rate study.[19] It illustrates the anticipated cost of maintaining and providing limited upgrades to Fortuna's system for the period fiscal year 2023-2024 through fiscal year 2028-2029.

[18] In 2012, Fortuna increased the connection fee for water and sewer services. There was no change to billing rates.

[19] 2024 Fortuna Water & Wastewater User Rate Study, Page 4-10

Figure 5. Anticipated revenue requirements for water & wastewater in Fortuna

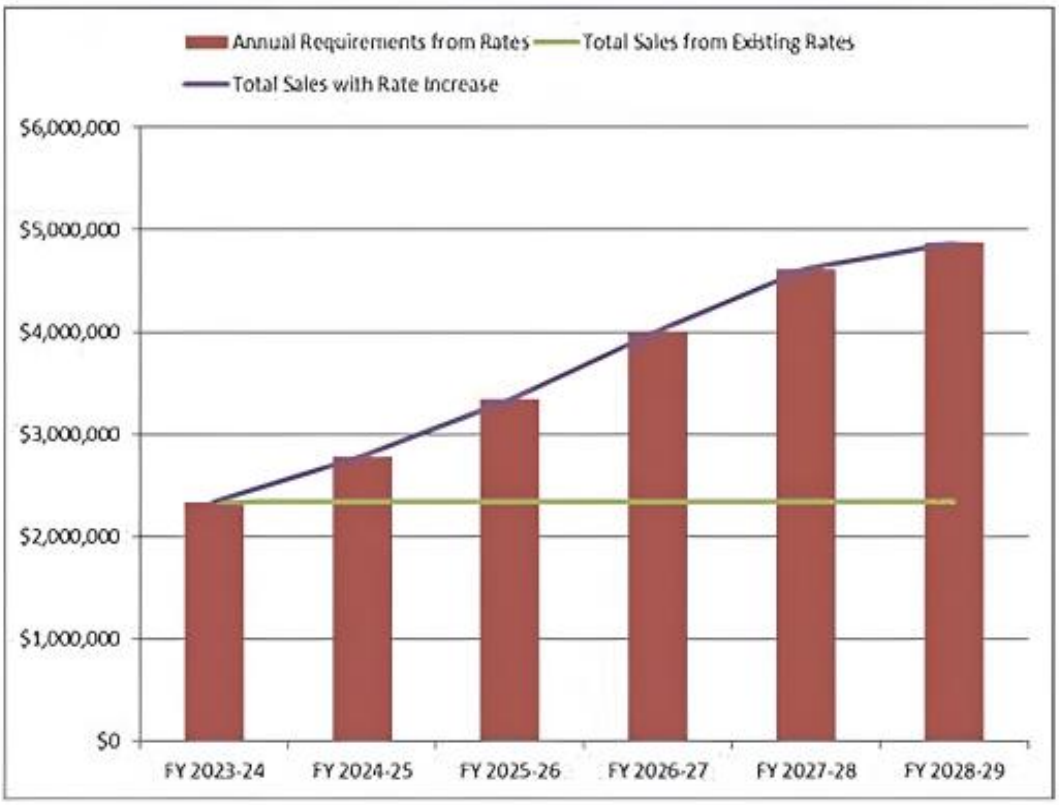


Figure 4-4 presents the ending fund balance for the operating and capital reserve from FY 2023/24 through FY 2028/29. The capital reserve fund is drawn down in FY 2023/24 to pay for budgeted capital improvements. The revenues generated by the system are sufficient to maintain the 6-month operating reserve balance and capital fund target.

This graph shows a sharp increase in costs and how much further Fortuna's water and wastewater systems would be underfunded without a rate increase. To maintain and make required updates in Fortuna's system, this study estimated costs will more than double between 2023 and 2029.

It is therefore reasonable to assume, based on the rises of the California Construction Cost Index and the California Consumer Price Index, that significant rate increases should have been applied during this period. To get by, Fortuna made minimal upgrades to their system with one consequence being increased maintenance while the majority of the system continued to age and deteriorate.

Facing a recent budget crunch, Fortuna initiated a trial work reduction schedule effective June 29, 2025. All Fortuna employees had their workweek slashed by 6 hours and now work 34 hours per week. This new schedule is slated to continue through June 30, 2027; it is unclear whether the shortened workweek will continue beyond that date. With fewer hours now available to work, Fortuna will fall further behind in its efforts to maintain a working system of water and water treatment.

A Different Approach – McKinleyville

McKinleyville Community Services District (MCSD) has taken a more proactive approach to water and wastewater management, electing to forecast needs and secure resources in advance. Communities that consistently increase water and wastewater rates can better keep up with inflation, rising salaries, and equipment and material costs. Annual funding increases allow for a better maintained system with fewer fiscal and infrastructure problems.

Policy decisions can have a big impact on future budgets, as the following examples illustrate.

Example 1:

- Ten years ago, MCSD anticipated that a new wastewater management facility might be needed in the future. Rather than waiting for a problem to occur, MCSD commissioned a study in 2015.[20]
- The study examined and allowed for:
    - Anticipated debt in financing its construction
    - Projected increased costs of ongoing operation

This ensured short and long-run financial health and stability for MCSD wastewater operations.

[20] 2015 Sewer Rate Analysis - McKinleyville Community Services District

Example 2:

- MCSD has approximately 25% more users than Fortuna but McKinleyville's budget for water and wastewater is about 46% higher than Fortuna's (Figure 6).

Figure 6. Fortuna and McKinleyville Water and Sewer Budgets 2025-2026

FY 2025-2026 Water & Wastewater Budget		
Municipality/Service District	Fortuna	McKinleyville
FY 2025-2026 Budget	$6,612,065[21]	$9,678,277[22]

A larger budget enables greater flexibility to manage problems and to upgrade an aging system. While Fortuna's rates were unchanged between 2011 and 2024, regular rate increases in McKinleyville allowed MCSD to make continued improvements. During this time, Fortuna was forced to spend more funds on repairing infrastructure when it might have been more economical to replace and upgrade their system.

Even with a more robust fiscal structure, MCSD customers will face higher rates soon. MCSD applied for and was granted a $5 million grant from FEMA for the replacement of sewer crossings where lines run under Highway 101. Due to recent personnel cuts, FEMA did not process MCSD's request to allocate previously-approved funds for this project. Efforts to secure this funding failed. Congressman Jared Huffman contacted FEMA to stimulate a prompt response but no one returned his calls. Funding for construction was lost but, as this project remains necessary, costs will be borne by rate payers.

It is likely that MCSD's experience with FEMA grants is not isolated. Other community service districts and municipalities may face the same fate. Money from grants which

[21] Fortuna Annual Water & Wastewater Budget, Pages 72 and 78 of the FY 2025-26 Annual Budget
[22] 2025-2026 McKinleyville Community Services District Water & Wastewater Budget, Pages 10-11

had been approved may no longer be accessible; the cost of previously approved projects may unexpectedly be borne by consumers.

Staff at Fortuna Public Works and McKinleyville Community Services District agreed that patrons of their services typically are unaware of or are confused by rate increases. Failure to effectively communicate with users is not due to lack of trying. Both utilities provide ample information using multiple media outlets.

Figure 7. Customer Communication Channels

Source	Fortuna Public Works	McKinleyville Community Services District
Official Website	X	X
Facebook	X	X
Twitter/X	X	
Local Newspaper (public notices/press releases)	X	X
Online Notices & Bulletin Board		X
Newsletter & Activity Guide		X
Website News & Update Pages		X
Public Meetings & Teleconferences	X	X

The methods used to share information about water and wastewater increases have not been successful. Note that all of the methods in the table (Figure 8) are passive; they depend on the user actually reading the notice. Direct mailing could be considered but MCSD already sends out a quarterly newsletter in which any change in rates is announced - this has also not substantially increased public awareness. While certainly not guaranteeing success, earlier and more frequent notifications across these outlets

prior to the next water and wastewater rate studies (2029 for Fortuna and 2027 for MCSD) are encouraged.

Fortuna residents will vote in November regarding raising their general sales tax by 0.75% to address declining revenues combined with steadily increasing prices. If passed, the additional revenue will not offset costs for the water and wastewater system as funding for this system is based on monthly utility bills, grants, and development impact fees rather than the general sales tax.

Taxpayers remain reluctant to approve additional funding, as shown by a recent survey. 64% of Fortuna respondents thought the city needed additional money but 57% opposed additional taxes.[23] Fortuna's water and wastewater system will need further rate increases in the future to compensate for years of insufficient funding. Taxpayer resistance to paying more, whether increased taxes or utility bills, will present a challenge to the Fortuna City Council when the next water rate study is completed in 2029. Given the need for substantial infrastructure improvements, the study will likely recommend significant rate increases.

CONCLUSION

Comparisons are difficult when water and wastewater systems have different customer bases, topography, district sizes, and existing infrastructure. With increasing prices affecting the ability for many residents to maintain a reasonable standard of living, there is understandable resistance to additional levies be they higher taxes or utility increases.

What is clear is that ensuring adequate drinking water and a functioning sewer system require consistent yearly increases. Although this report focused on the City of Fortuna and the McKinleyville Community Services District, the need for continuous funding at levels which cover the cost of maintenance and upgrades applies to all municipalities

[23] More Sales Taxes on the Way? Fortuna City Council Adds Measure to November Ballot

and community services districts. If you doubt this finding, consider the situation faced by consumers in Clear Lake or Alderpoint County District.

To ensure adequate water and sewer service, citizens are offered two choices: pay more now or pay a lot more later.

FINDINGS

The Humboldt County Civil Grand Jury finds that:

F1: Both the Fortuna Public Works Department and the McKinleyville Community Services District are working diligently which will ensure water and wastewater services continue to be available for users.

F2: Despite considerable efforts of many water districts to communicate with users, people are often unaware of rate increases until a larger bill arrives. **(R2, R3)**

F3: Fortuna's infrastructure is aging faster than it is being upgraded, therefore creating greater maintenance costs and deterioration of the system. **(R1, R2, R3)**

F4: Municipalities and districts which fail to provide adequate funding for water and wastewater systems may incur higher maintenance costs which negatively affects the amount of money available for upgrades. **(R1, R2, R3)**

F5: The City of Fortuna failed to complete a five-year plan during an 18-year period, contributing to insufficient system upgrades and a greater cost burden for maintenance. **(R1, R2, R3)**

F6: The City of Fortuna did not raise its rates for water and wastewater between 2011-2024 while operating costs steadily rose, resulting in the city having to delay needed infrastructure improvements. **(R1, R2, R3)**

F7: Due to FEMA not releasing money previously granted to the District, McKinleyville Community Services District will need to find money to replace funding expected from FEMA for several infrastructure improvement projects in progress.

RECOMMENDATIONS

The Humboldt County Civil Grand Jury recommends that:

R1: The Fortuna City Council commission a new water rate study to be completed and presented to City Council no later than April 15, 2029. **(F3, F4, F5, F6)**

R2: The Fortuna City Council communicate to Fortuna customers that this yet to be commissioned water rate study (referenced in **R1**) will likely recommend increasing rates beginning in fiscal year 2029-2030 to provide funds to maintain and upgrade water and sewer systems. This is to be done by no later than January 31, 2029. **(F2, F3, F4, F5, F6)**

R3: When the 2029 water study is complete, the Fortuna City Council redouble efforts to inform the public of results of the 2029 water rate study by sending multiple notices, extensive use of media outlets, and schedule/announce public meetings to prepare the community for the need for likely rate hikes. This is to start by no later than one month after the study completion. **(F2, F3, F4, F5, F6)**

RESPONSES

Pursuant to California Penal Code sections 933 and 933.05, each entity or individual named below must respond to the enumerated Findings and Recommendations within specific statutory guidelines.

Responses to Findings shall be either:

- The respondent agrees with the finding; or
- The respondent disagrees wholly or partially with the finding, in which case the response shall specify the portion of the finding that is disputed and shall include an explanation of the reasons therefor.

Responses to Recommendations shall be one of the following:

- The recommendation has been implemented, with a summary regarding the implemented action; or
- The recommendation has not yet been implemented, but will be implemented in the future, with a time frame for implementation; or
- The recommendation requires further analysis, with an explanation and the scope and parameters of an analysis or study, and a time frame for the matter to be prepared for discussion by the officer or head of the agency or department being investigated or reviewed, including the governing body of the public agency where applicable. This time frame shall not exceed six months from the date of the publication of the Grand Jury report; or
- The recommendation will not be implemented because it is not warranted or is not reasonable, with an explanation therefor.

REQUIRED RESPONSE – WITHIN 90 DAYS

The Fortuna City Council

(F1, F2, F3, F4, F5, F6) and (all recommendations)

Invited Responses

The Humboldt County Civil Grand Jury also invites the following entities or individuals to respond.

The McKinleyville Community Services District

(F1, F7)

Responses are to be sent to both:

The Honorable Judge Timothy A. Canning
California Superior Court for Humboldt County
825 5th Street, Eureka, CA 95501

The Humboldt County Civil Grand Jury
PO Box 657; Eureka, CA 95502 A

Reports issued by the Grand Jury do not identify individuals interviewed. Penal Code section 929 requires that reports of the Grand Jury not contain the name of any person or facts leading to the identity of any person who provides information to the Grand Jury.

APPENDIX A: The Deep Dive into Costs, Factors, Determining Rates, and Factors Affecting Funding

This appendix provides a more detailed explanation of the rate factors described in the section "**Factors Affecting Your Bill**" starting on page 6 of this report.

A. Operational Costs - costs for maintenance, plus water and sewer infrastructure

Water and Sewer Services -

- Purchasing water, or not (Community Service District, City, or private water companies), treating, and distributing water
- Flat rate or tiered rate; summer and winter rates
- Base rate - fixed charge
- Meter reading and usage charges
- Collection and treatment of wastewater

B. Regulatory Environment

Regulatory compliance refers to growing costs associated with water and wastewater treatment, and regulatory compliance.

There are numerous regulations with which to contend. The key categories are:

- Permitting
- Treatment standards
- Monitoring and reporting
- Public health and
- Environmental protection

The cost of ever-changing regulations imposed by state and federal entities presents a particular challenge to smaller water and sewer agencies.

Federal regulations fall primarily under the Clean Water Act, Safe Drinking Water Act, and the National Pollutant Discharge Elimination System. The Environmental Protection Agency (EPA) website lists regulations by topic.[24]

The California State Water Resources Control Board provides a compilation of relevant laws on its website.[25] The purpose of the board and the regulations it sets are to protect public health, the environment, and to maintain reliable water sources. The regulations also require systems to address changing climate conditions, such as heavier rains or longer dry spells.

America's Water Infrastructure Act of 2018 addresses water infrastructure, quality, financial, and technical challenges. The Act has 30 mandated programs and provisions that affect water management and infrastructure.

Impact of Regulatory Change

Balancing the need to deliver affordable rates to their community while maintaining financial sustainability is difficult. Advanced technology is required to meet refined standards, resulting in continually rising capital and operating costs. Rural, or disadvantaged communities[26] that have smaller populations struggle to obtain the resources needed to maintain infrastructure and staff. The financial ability to operate their systems also becomes a risk. Rural residents pay approximately three to four times as much for services compared to residents of densely populated areas.

In 2022, the Infrastructure Investment and Jobs Act directed the EPA to compile an updated report on affordability for water infrastructure for both drinking water and wastewater. For the first time in a decade, wastewater was included in this updated

[24] Regulatory and Guidance Information by Topic: Water | US EPA
[25] Laws and Regulations | California State Water Resources Control Board
[26] Rural and Small Systems Guidebook to Effective Utility Management

report. The report mentioned difficulties in obtaining data because states were unable to collect accurate documentation due to cost and limited resources.[27]

The National Association of Water Companies created a summary of the EPA report entitled, "EPA Water Affordability Needs Assessment: Five Key Takeaways."[28] Those key points are:

- Water affordability affects millions of households
- Utilities cost increasing, federal funds decreasing
- Deferring rate increases and failing infrastructures
- System consolidation could help lower cost burdens
- Permanent federal water assistance

The report estimated the nation's water infrastructure needs at $630.1 billion and stated that aging infrastructure and climate change pose challenges. It found that water utilities face rising costs for operations and maintenance, infrastructure upgrades, and public health/environmental protection, making it difficult to raise rates without burdening ratepayers.

C. Geographic, demographic, environmental and inflation factors

Factors such as aging infrastructure, population size, and climate risks (drought or flooding) vary considerably by region.

- Many of the pipes within Humboldt County's communities are as old as their Victorian Houses.
- A substantial number of water and sewer pipes in some communities are made from clay or asbestos cement. Both have exceeded their lifespan.
- The older the pipe, the greater the chances of breaks and failure.[29]

[27] 2022 Clean Watersheds Needs Survey Report to Congress
[28] EPA Water Affordability Needs Assessment
[29] The EPA estimates that $1.26 trillion is needed over the next 20 years to address water and wastewater infrastructure to ensure the safety of drinking water and waterways nationally.

Humboldt County has a number of small and rural water and sewer systems. They do not have enough users to create the resources needed to complete and maintain large infrastructure projects as suggested.

Over 44,000 of the 53,000 water systems in the United States today are small systems. A brief published by The National Conference of State Legislatures[30] discusses the challenges small and rural communities face, and as a result, rates often exceed affordable levels.

Extreme weather conditions can affect the collection and treatment of wastewater, such as flooding leading to untreated effluent overflow into waterways. Infrastructure addition and maintenance, as well as storm drain cleaning and increased treatment are needed, which may lead to an increase in rates.

Drought increases the demand for water leading to operational and economical challenges for water and sewer systems. Facilities may increase rates or switch to higher fixed charges. Water limitations are also sometimes set to conserve water use.

The shifting landscape of climate change, marked by more severe droughts, floods, and wildfires, creates substantial hazards for the state's water and wastewater infrastructure. These environmental pressures further exacerbate existing difficulties in managing groundwater resources and ensuring every community has fair access to reliable, low-cost drinking water.[31]

Inflation has a profound effect on water and sewer systems, directly affecting rates and improvement needs. Rising construction and operational costs play a major role in increased rates. Avoiding those rate increases is often the reason an agency may defer maintenance.

[30] From the NCSL Website: State Policy for Small and Rural Water Systems Brief
[31] https://water.waterboards.ca.gov/climate/

D. Studies and Plans

Rate studies and a variety of plans and studies are often performed by either third-party entities or committees comprised of budget/finance officers, public works officials, and community organization members. The cost in completing a study/plan varies depending on the time and the complexity of the entity.

Data collection and analysis are essential in making informed decisions. Plans identify the crucial needs of a water and sewer system, such as improvement upgrades, maintenance costs, and expansion. They are also an important step for obtaining funding.

Studies and Plans include:

1. Water/Sewer Rate Study
   This study is done to ensure funding for capital improvements to make sure rates are fair and equitable, and to show the costs associated with providing service. The plan usually covers five years to convey transparency for future needs.

   (a) Proposition 218
   This 1996 California proposition ensures that all local taxes are subject to approval by voters. It imposes strict requirements on assessment and property-related fees. Prop 218 also requires water providers to conduct economic and accounting analyses to justify their water/sewer rates. While rate studies are beneficial, the analysis is not cheap, and consumers often don't understand the result. What they do recognize is that these studies typically mean higher rates.

2. Capital Improvement Plan
   A Capital Improvement Plan covers fiscal responsibility, accounts for community growth, and identifies necessary projects, planning, timeline, and implementation. The plan is a long-term outlook and can be anywhere from five to ten years. Additionally, it should be reviewed annually to ensure that the plan reflects changing community needs, priorities, and funding.

3. Sewer System Management Plan

Effective management, operation, and maintenance are one reason for this plan, but it's also required to minimize the number and the impact of overflows. This plan must be updated every five years as part of the waste-discharge permit requirement.

4. Hazard Mitigation Plan

FEMA requires local governments to have an approved Hazard Mitigation Plan to be eligible for certain federal funding and assistance programs. The plan also identifies risks and vulnerabilities, as well as actions that can be taken to reduce these issues and enable a faster recovery. Plans must be updated every five years.

5. Urban Water Management Plan

The key benefits of an Urban Water Management Plan are clean drinking water, reliable sanitation, and wastewater disposal. Other benefits include controlling storm runoff and risk management. On the economic side, the plan also seeks to reduce waste and operational costs. The idea is to build a sustainable, healthy, and resilient environment.

One compliance element of this plan is the California Department of Water Resources requirement that every water supplier serving more than 3,000 connections must submit this plan every five years.

6. Municipal Service Review and Sphere of Influence
   This is an analysis of municipal services within a certain geographic area that is required by the Local Agency Formation Commission (LAFCO). A LAFCO oversees the establishment, expansion, governance, and dissolution of local government agencies and their municipal services. The study looks at population, growth, services, fiscal health, governance, and opportunities for improvement and should be completed every five years.

   Municipal Service Reviews are often required before or in conjunction with a Sphere of Influence plan. The Sphere of Influence provides a framework for assessing whether an area is likely to need municipal water, wastewater, or related services in the future. It informs decisions on where and when to expand or reorganize services. This plan should be updated five years or as needed.

E. Capital Reserves and Funding

There is no single law that requires a water or wastewater facility to maintain a capital reserve. However, Sections 20200–20220 of the California Water Code requires facilities to be financially responsible for adequate funds for capital improvement plans.

The California Code of Regulations, enforced by the State Water Resources Control Board, sets operational, environmental, and financial standards for water and wastewater facilities, ensuring adequate funding and financial reporting occur.

The bottom line is the fact that fees based only on the usage of water and sewers alone do not meet the financial needs of water and sewer systems. Why? For all the reasons listed above. For providers of these water utilities to remain financially viable, other sources are needed.

Funding sources to cover the gap in revenue obtained by entities and the cost of maintaining adequate capital reserves can include the sources below. Several Humboldt communities have been aided in paying for improvements from these resources:

1. Grants, Loans, & Bonds

During the 1970's and 1980's, sewer rates were kept low thanks to federal government funding providing grants for infrastructure needs. This source basically dried up during the 1990's with no replacement in the form of direct funding. The federal grants had artificially lowered the costs to communities when compared to the actual costs incurred, allowing for reduced rates.

When these loans stopped flowing, entities needed to increase rates and seek other funding. Some help subsequently came in the form of low-cost loans through the federal or state government. As this funding was comprised of loans rather than grants, many entities amassed millions of dollars of debt which needed to be repaid. Such loans placed an additional burden on water and sewer agency finances.

Types of Bonds

Water and sewer utilities employ multiple bond structures to finance operations, capital programs, and debt refinancing:

Senior Lien Bonds

Senior bonds represent approximately 75 to 85% of major utilities' debt structure and carry protections to ensure sufficient revenue to cover operating expenses. Senior lien bonds are structured to require level or gradually declining annual payments of principal and interest. This results in debt service obligations remaining fairly consistent over the life of the bonds and making budgetary and financial management predictable.

Parity Bonds

Parity bonds rank equally with existing senior or subordinate bonds in on revenues. A utility issuing parity bonds involves pledging specific revenue from fees or taxes to secure payment. An issuer may include financial conditions like maintaining debt service and ensuring the ability to support additional parity bonds.

For example, a municipal water or sewer entity issues two series of bonds backed by water or sewer fees. Both series are parity bonds, meaning each bondholder has an equal claim on the revenue. If the entity collects $1 million in fees, the funds are distributed proportionally to all bondholders, regardless of which series they hold.

Insured Bonds

Bond insurance provides a third-party guarantee of timely principal and interest payments. While insured municipal bonds represent less than 5% of new disbursements in 2024-2025, smaller systems occasionally use it to achieve enhanced ratings and lower borrowing costs. Insurance does not reduce underlying credit risk; it transfers payment certainty to the insurer.

2. Clean Water State Revolving Fund[32] and the Drinking Water State Revolving Fund[33]

The Clean Water State Revolving Fund uses federal, state, and other programs to provide low-interest loans. The rates can vary, and amounts can be limited depending on the organization's ability to pay back. Replacing millions of dollars of infrastructure for a disadvantaged or rural community can be prohibitively costly. Communities often seek assistance. For example:

- The City of Arcata's $67 million upgrade of its Wastewater Treatment plant was partially funded through the Clean Water State Revolving Fund. Additional funding came from FEMA grants and the Community Development Block Grants.

The Drinking Water State Revolving Fund supports projects by providing financial assistance to public water systems to improve water quality and infrastructure, including the construction and upgrade of drinking water facilities.

- Myers Flat is considered to be a small, seriously disadvantaged community. The Myers Flat Mutual Water System, Inc. applied for and was granted assistance from this fund. They received a two-million dollar grant to replace 6,600 feet of deteriorated and undersized mainlines, plus the replacement of valves, fire hydrants, and meters.

[32] Clean Water State Revolving Fund (CWSRF) | US EPA
[33] EPA Drinking Water State Revolving Fund

3. Proposition 84[34]

California's Proposition 84, passed in November 2006, establishing comprehensive funding to address environmental and public infrastructure issues. It authorizes the state to issue general obligation bonds to assist local communities in upgrading water/sewage systems and cleaning up contaminated sources. The bonds are approved by the voters and used to fund a project. The state commits its taxing power to repay the principal and interest.

- Big Lagoon utilized this funding avenue. Big Lagoon Community Service District, with the technical assistance of the North Coast Resource Partnership, was able to replace two 5,000-gallon water tanks with a single 60,000-gallon steel tank funded by Proposition 84. They now have enough water to ensure coverage of maximum daily usage, and to handle outages due to natural disasters or other emergencies.

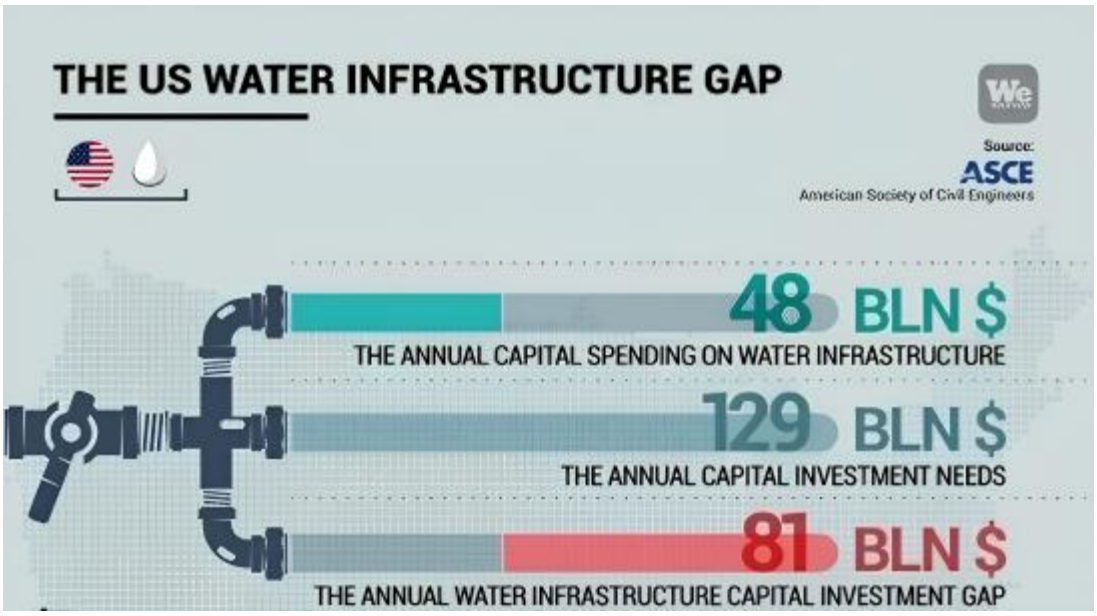
4. Federal Emergency Management Agency (FEMA)

FEMA's role is explained above in the section titled, "An Unexpected Development Affecting Rates."

Reduced federal assistance

Across the board, state and federal funding has been reduced and remains insufficient to meet the needs of the United States' water and sewer systems. It is incumbent on service providers to recognize future increases to funding from these sources seems unlikely.

[34] Proposition 84 - CNRA Bond Accountability



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On April 26, 2026 the Environmental Protection Agency (EPA) announced a $30 million Real Water Technical Assistance program[36] which seemed to indicate that additional money might become available with this statement:

> *"Rural communities are the backbone of this country, and I firmly believe that we must do everything we can to ensure that they can continue to have access to clean and safe water,"* ***said EPA Assistant Administrator for Water, Jess Kramer.*** *"EPA is investing $30 million from the RealWaterTA initiative to provide resources to small and rural communities who are working to fulfill critical water infrastructure needs to protect human health and the environment, and Power the Great American Comeback."*

Although this may sound like the relief municipalities and service districts are looking for, the reality is that it does not offer any direct funding, nor will it guarantee future funding awards. What it does offer is technical assistance: guidance, advice, training, and consulting.

35 A $50 billion investment to protect water resources
36 Water Technical Assistance: Ensuring Equitable Access to Water Infrastructure Funding

F. Community Outreach

Effective Communication is important for any agency or business. It helps to maintain transparency and invite responsiveness from the community. Consistent messaging across bills and websites reinforces the value of water and sewer services. Building strong, positive relationships with customers and community builds understanding and acceptance of future projects.

Building better communication involves the following:

1. Creating water and sewer bills that are easy to understand by showing clear cost breakdowns as separate line items with biannual rate updates
2. Educating Customers to provide clear and easy to understand information on topics like pipes, conservation, rate studies, water safety and reliability, etc.
3. Offering Events and Campaigns using themed programs and events to raise awareness and engage communities
4. Using a Multimedia Strategy utilizing both traditional and digital resources to reach all customers
5. Encouraging Interactive Dialogue which makes it easy for customers to ask questions and participate

APPENDIX B: A Tale of Two Cities - History and Analysis of Water and Wastewater Systems

The financial orientation of a water and wastewater utility can greatly affect its effectiveness and flexibility in responding to the needs of its service community. The two entities below have taken a different approach with respect to funding with an eye on future needs versus ensuring burdening users with additional fees.

McKinleyville Community Service District (MCSD)

The McKinleyville Community Service District constructed a system-wide distribution center and started serving water in 1972. MCSD acquires its water wholesale from the Humboldt Bay Municipal Community Service District and is piped under the Mad River to the Grant A. Ramey Pump Station. The District serves about 6,700 customers with a 4% yearly growth rate.

- **Rate Study**

  McKinleyville consistently completes a five-year rate study every five years. The last rate study was done in 2022.

  The base rate for water is set by meter size and volume and includes the wholesale cost from Humboldt Bay Municipal Community Service District. Sewer rates are based on a fixed and a volume charge. Each system will be charged the amount that is proportional to the cost of serving the user. Rates are adjusted each year through 2027 when the next rate study is due.

  Based on a typical single-family home, the water and sewer rates would be $115.86 a month. This is a $6.68 increase from 2025 and a $27.49 increase over the 5-year rate study period.

  The MCSD adopted a Water Shortage Contingency Plan to prepare and respond to water shortages. It includes water restrictions and an additional drought fee.

  Staff
  MCSD has trained and certified staff for both its water and sewer facilities. Recruiting staff willing to pursue the required training is a challenge. MCSD, according to its Strategic Plan, is committed to creating a quality working environment and a good retention rate.

Operating Costs
Materials, supplies, general repair, and maintenance expenses generally increase based on inflationary factors that directly impact the water and sewer industry. The wholesale water purchase from the Humboldt Bay Municipal Community Service District is the largest piece of their water budget.

MCSD performs preventative maintenance, pipe inspection, and emergency repairs. Other operational costs include maintaining and operating the sewer collection system and the wastewater treatment plant, which covers items like sludge handling and chemical application.

- **Annual Budget**

Water	
Revenue	$6,645,859
Expenses	$4,663,108
Debt Service	$ 192,452
Wastewater	
Revenue	$8,466,372
Expenses	$5,015,169
Debt Service	$ 250,000

- **Funding/Reserves**

Starting on page 31 of the fiscal year 2025 - 2026 MCSD budget proposal, capital improvement plans and funds are discussed.[37] Two large projects were mentioned for this year: the $4.25 million Mad River Crossing Emergency Water Supply and the replacement of two large water tanks, both funded by FEMA. The district budgeted $750,000 for both projects, contingent on receiving funding from FEMA.

Other projects include:

* Recoating a tank - protection from corrosion, $750,00
* Pipeline assessment, $30,000
* Upgrade from dry barrel to wet barrel fire hydrants, $7,000
* Water main rehabilitation/replacement, $1,000,000

[37] McKinleyville Community Services District Budget for Fiscal Year 2025 - 2026

Sewer Project Funding

The big undertaking was the Highway Undercrossing project, a $5.2 million grant awarded by FEMA. The district budgeted $2 million to finish the design and permitting process with the hopes of starting construction this year.

The Fisher Uplift Station is to be upgraded. FEMA is to fund 75% of this project. The district has budgeted $500,000 for the final design and engineering. The potential date for construction was 2026-27, with a $4 million budget.

Other smaller project funding:

* Biosolids project, $240,000 is set aside annually
* Sewer main rehabilitation/replacement, $1,000,000
* Lift pump and generator replacement, $240,000 set aside
* Sewer main cameras, $50,000
* Miscellaneous projects, $40,000

Debt Services

MCSD has debt service obligations tied to loans and repayment plans used to finance capital improvements. Debt service is the total amount of money required to repay debt obligations, including principal and interest, over a specific period. MCSD's debt service is funded through customer rates for both water and sewer, as well as through capital improvement financing (e.g., bonds, grants) for major infrastructure projects.

Regulations and Codes

Like any other municipality or community service district providing water and sewer services, MCSD follows the California state laws and codes concerning health and safety, mandated plans (e.g., Urban Water Management Plan[38], MCSD plan hearing is scheduled for June 3 of this year), and environmental impact.

[38] McKinleyville Urban Water Management Plan

There are also State Water Board requirements that address waste discharge requirements, pretreatment standards, pollutants, and implementing a Sanitary Sewer Management Plan (SSMP).[39] The district displays this report along with its annual Wastewater Management Facility Monitoring and Discharge Report.[40] MCSD has published a 162-page document on rules and regulations dated January 1, 2026.[41] This document defines terms, procedures, and compliance requirements for water and sewer services.

Maintenance and Infrastructure

Included in the MCSD budget (page 30) is a capital improvement plan summary of the planned projects and the expectations for funding them. In the introductory paragraph, MSCD has stated the following:

> *"The Board has made a commitment to not defer scheduled maintenance, repair, or replacement of current service delivery systems. This must be balanced against the Board's equal commitment to fiscal responsibility."*

A Strategic Plan for 2024-2029 (page 35 of the budget), provides specific MCSD objectives. The purpose of the plan is the following:

- Measure District success;
- Generate focused work plans;
- Adopt comprehensive, goal-oriented budgets; and
- Communicate District values and direction to the community.

MCSD's goal is to complete and fund capital improvement projects and infrastructure maintenance and improvements over time through "thoughtful analysis and financial planning."

[39] McKinleyville Sanitary Sewer Management Plan
[40] McKinleyville Wastewater Regulatory Reporting Documents
[41] McKinleyville Community Services District Rules & Regulations

Fortuna Municipal Water and Sewer

In 2024, a new rate study was submitted, and according to the plan, customer bills will be doubled within 5 years.

Key factors in determining the size of the rate increase:

- **Rate Study**

  Before the 2024 rate study, Fortuna did not perform a 5-year rate study since 2006 and had not raised the rates for 13 years. A general resistance by the previous city administration to raise water and wastewater rates prevailed. Understandably, in 2020, when COVID hit our county, the economic impact also hit, causing financial hardships and a reluctance to raise rates. In its aftermath, supply and demand in the labor markets became increasingly expensive, a trend continuing today. As a result, the increasing costs of maintenance and infrastructure for utilities were not supported by matching increases in rates.

- **Staff**

  The Fortuna Water and Waste Division trained staff work on maintenance issues continuously. There has been turnover in staff, but there are some long-term employees. Oftentimes, workers will acquire the training, certifications, and experience, then leave to make more money elsewhere. On June 29, 2025, all city employees, including water and wastewater staff, went to a 34-hour work week due to budgetary constraints. Fewer hours in a work week, and a small staff make pursuing funds and grant writing a difficult task.

- **Operating Costs**

  1. Water and wastewater systems are large energy consumers. Pumping, aeration, mixing, and chemical application are the largest energy-consuming processes for these systems.
  2. Chemical costs are a major and growing expense. High transportation costs, raw material shortages, and regulatory changes all contribute to higher expenses.

3. Construction spending has continued to increase for water and wastewater facilities. According to the California Construction Cost Index, it has increased by about 70% over the past 12 years.[42]
4. Construction cost increases mean higher material, labor, and supply costs need to be budgeted.
5. For large scale projects, Fortuna generally seeks a contract company that has the equipment and manpower to manage the construction.

It should be noted that fees in the 2024 water study were adjusted to meet the rising costs of inflation.

- **Funding/Reserves**

Fortuna separates their capital reserves into two categories:

1. Water System Capital Improvement Fund
   The funding source for this reserve is new water connections. This fee has not been raised since 2012.

2. Wastewater Capital Reserve Fund
   Like the Water System Fund, the Wastewater Reserve Fund is funded by new connections, and this fee has not been raised either.

3. Drainage Reserve Fund
   This can exist in two forms:
   - Land-based drainage reserve - it's set aside to protect the integrity of a drainage system.
   - Financial drainage reserve fund - dedicated to future drainage expenditures.

- **Debt Services**

The city's debt agreement requires it to generate net revenues that are 1.25 times the annual debt service payments on its outstanding debt. Any income in excess of the debt can pay for maintenance and upgrades. Fortuna's revenue bonds have an annual debt service of about $400,000, and it should remain constant through the 2028/2029 fiscal year.

[42] 2024 Fortuna Water & Wastewater User Rate Study, Page 1-1

- **Regulations and Codes**

  Fortuna did a Sewer System Management Plan in 2023.[43] Among other things, the plan focuses on maintaining compliance with statutory regulations, standards, and codes. The Thomas Cooke Memorial Wastewater Treatment Plant provides onsite laboratory testing. This allows for direct monitoring and reporting, ensuring compliance with local, state, and federal regulations.

  A major problem that confounds planning is with the number of new and unfunded regulations. A rapidly expanding and complex web of regulations places demands on budgets and operations making compliance difficult. Greater technological changes, environmental concerns, and new contaminants to address such as synthetic chemicals and microplastics require more funding when the money to address these new regulations is unavailable.

  It was stated to the Grand Jury that operations compliance can change simply due to a new mandate, something that affects all entities. While nothing has changed with water provision or wastewater management to users, the new regulations often require additional services or equipment. Until the entity can adjust to a new requirement, it is technically in violation of the law. An ironic twist to this dilemma is that being in violation can often entitle an entity access to the funds it needs to resolve the problem and once again be compliant. Access to those funds to address an issue was not possible prior to the new regulation going into effect and the entity going out-of-compliance.

- **Maintenance and Infrastructure**

  The Water and Wastewater Maintenance Staff have worked to repair any leaks that have popped up. They have used cameras to inspect lines and find problem areas. Fortuna has a lot of old piping within its infrastructure. For example, asphalt-concrete (AC) pipes were used by the city from the 1940's to the 1970s because they were corrosion-resistant and relatively inexpensive. Those pipes are now beyond their expected lifespan.

  The downtown area has AC pipes that need replacing. These pipes are a major problem, becoming brittle and breakable, existing well beyond their 50-year design. They are difficult to remove because of regulatory restrictions. The Downtown Water Line Replacement is a $1.8 million project.

[43] City of Fortuna Sewage System Management Plan

- **Budget**[44]

Water

Revenue	$3,432,000
Operating Expenses	$2,709,798
Debt Service	$3,106,823
Capital Funds	$ 300,000
Capital Improving Projects	$2,695,000

Wastewater

Revenues	$5,597,000
Operating Expenses	$3,902,267
Debt Service	$ 688,094
Capital Funds	$ 320,000
Capital Expenses	$6,740,000

Each budgetary item for capital improvement expenditure shows a deficit when compared to the funds for the projects.

Capital Improvement Plan for Fiscal Year 2025-2026[45]

- Replace all Sensus 520R RadioRead radios with more efficient SmartPoint 520M models to improve water metering accuracy and efficiency.
- Wastewater Treatment Plant Digester Repair & Damage Evaluation – Address earthquake-damaged floating dome on the digester (December 5, 2024) and evaluate for potential unknown damage.

In short, the Fortuna Water and Wastewater system has compliance and infrastructure issues but not enough funding to address them. Maintenance has been the band-aid for a deteriorating infrastructure, but it has allowed the system to operate continuously. The reserves provide some stability and a safety net. On its own, raising rates cannot fill the funding gap for operating costs, compliance, maintenance, and infrastructure needs; other funding must be sought.

[44] City of Fortuna Proposed Budget Fiscal Year 2025 - 2026
[45] City of Fortuna Five-Year Capital Improvement Program