



The WATER Act:

Restoring Federal Support for Clean Water Systems

Across the country, outdated wastewater systems dump hundreds of billions of gallons of raw sewage into our waterways each year, polluting water resources, endangering public health, harming aquatic life and damaging our environment.¹ It has been 50 years since the passage of the Clean Water Act, and an unprecedented climate emergency is overwhelming our aging wastewater systems.

Climate chaos is driving extreme weather that worsens sewage spills and dumps toxic waste in cash-strapped communities across the country, particularly in the Midwest and Northeast,² while the Southwest suffers a megadrought, fueling fires and depleting water supplies.³ Without dedicated federal funding, many communities cannot afford to make the necessary repairs to the collection, treatment and septic systems that keep our water clean and safe. This lack of investment in water infrastructure isn't just shortsighted; it's dangerous. Aging systems contaminate our natural and built environments and threaten the health and safety of our water and of people everywhere.

It's time to pass landmark water legislation for the 21st century: the Water Affordability, Transparency, Equity and Reliability (WATER) Act. Our nation's water systems need dedicated federal commitment to keep the promise of clean, safe water for everyone.

Clean Water Act

In 1972, Congress overrode a veto by President Richard Nixon to pass into law the Clean Water Act, a defining environmental victory of the 20th century. The legislation was intended to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." It has been one of our most effective environmental laws.⁴

To help communities comply with wastewater standards, the law dramatically increased funding for the wastewater system construction grants program, providing nearly \$41 billion through 1984. According to the Congressional Research Service, it was “the largest nonmilitary public works program since the Interstate Highway System.”⁵

The Daunting State of the Nation’s Wastewater Systems

Aging Systems

Many of the nation’s wastewater treatment plants were built or improved with the federal dollars provided by the Clean Water Act.⁶ By 2021, however, water and sewer pipes were averaging 45 years old, and many were approaching the end of their lifespan.⁷ These aging wastewater systems need major updates to protect human health and the environment.⁸ Overall, the American Society of Civil Engineers gave the country’s wastewater infrastructure a grade of D+ in 2021.⁹

Growing Needs

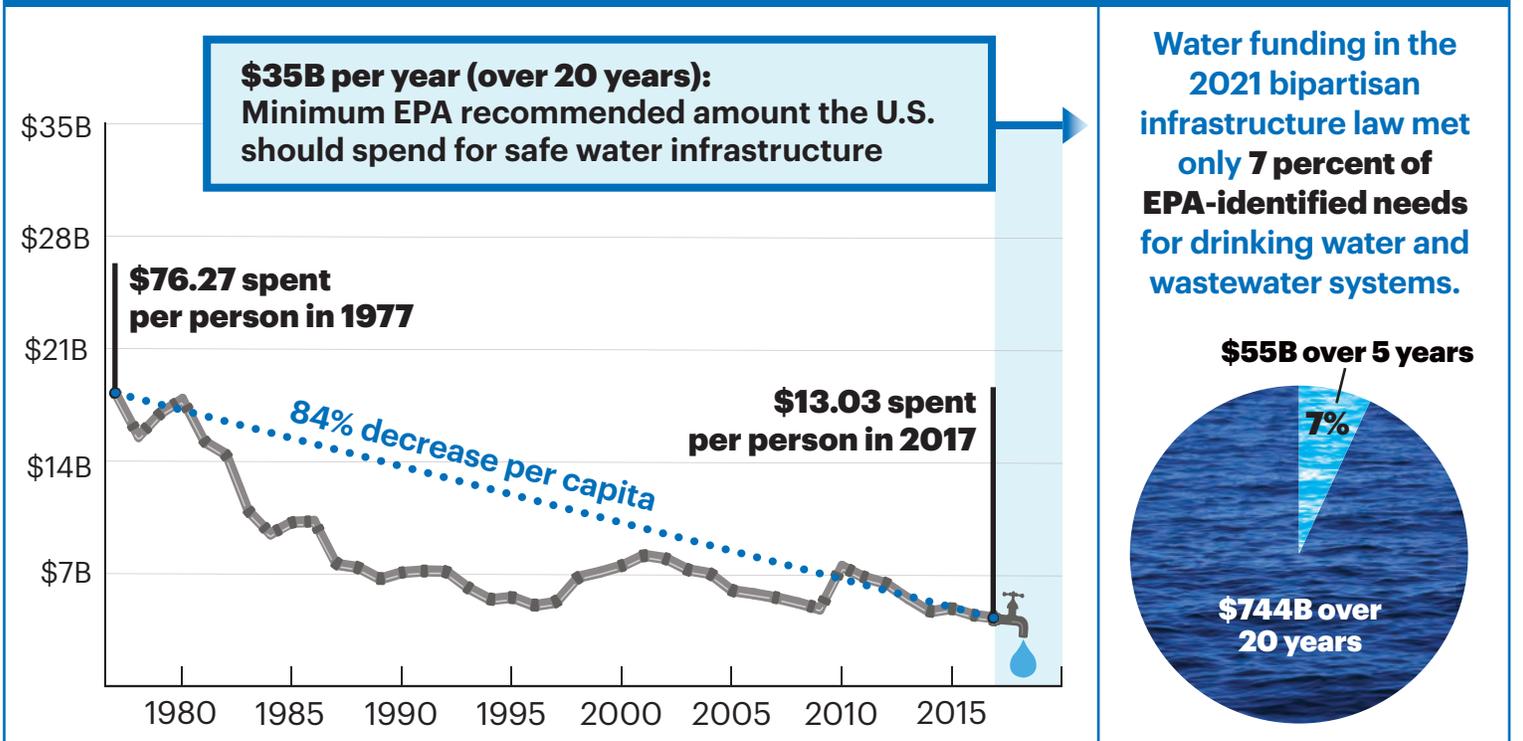
In total, our drinking water and wastewater systems require at least \$744 billion in investment over the next

20 years, or more than \$35 billion a year (see Figure 1).¹⁰ Public wastewater systems alone, as of the latest needs survey in 2012, needed at least an estimated \$271 billion over two decades to improve treatment plants, sewer lines, address stormwater and stop overflows.¹¹ But the U.S. Environmental Protection Agency’s (EPA) Clean Water State Revolving Fund Program, the main source of federal support for wastewater projects, provided a mere \$1.6 billion in 2021,¹² and the infrastructure law of 2021 added only \$12.7 billion over five years to this program.¹³ This falls far short of the total need.

Overall, federal funding for water and wastewater infrastructure has plummeted since its peak in the 1970s, dropping 77 percent from 1977 to 2017 in real terms.¹⁴ That’s a per capita decrease in funding of 84 percent.¹⁵

A 2020 wastewater industry survey found that two-thirds of spending on capital improvement plans went to update aging systems and to address combined sewer overflows, and that improvement budgets had grown 24 percent over the previous three years.¹⁶ Federal support through the State Revolving Fund program, however, accounted for only 15 percent of long-term financing,¹⁷ leaving a huge gap between what communities know they need and what the federal government has provided.

FIG. 1: Federal Spending on Public Water Infrastructure



Climate Chaos

Climate chaos threatens to strangle the nation's access to clean water, causing more sewage spills and compounding the costs of urgently needed updates to aging systems.¹⁸ In 2022, the megadrought in the southwestern United States was so severe that the last two decades were estimated to be the driest period in 1,200 years, causing water shortages and fueling wildfires.¹⁹

Weather disturbances also contribute to water system disruptions, including operational outages, loss of supply or restrictions on water use, and degraded water quality.²⁰ Extreme weather has been catastrophic to water infrastructure. Flooding and sea-level rise further threaten systems and can force infrastructure relocation. Also, heavy rainfall leads to more sewage overflows. The total costs of adapting our water and sewer systems to meet the threats of climate chaos are already high and are projected to near \$1 trillion by 2050.²¹

Affordability Crisis

Many communities struggle to meet the costs of keeping water clean, maintaining aging systems and grappling with climate emergencies. With meager federal support, water and wastewater systems are forced to hike customer rates.²² From 2008 to 2014, water and sewer rates nationwide increased by about 40 percent on average.²³ Over the last 15 years, water bills have increased at three times the rate of inflation, but household incomes have fallen in real terms.²⁴



Households and localities are grappling with water service costs that are increasingly unaffordable.²⁵ This problem has become especially complex in this period of widening income inequality and reliance on regressive water billing practices, which lead low-income households to pay a disproportionate amount of their income for their water service.²⁶

Many communities are stuck with an impossible choice: raise rates on people who cannot afford to pay, or allow aging systems to spill sewage into homes and waterways and endanger public health. Because of structural inequities, this crisis is not felt equally. Black and Brown communities are disparately impacted because of systemic racism, leading to unaffordable water bills,²⁷ service shutoffs,²⁸ failing wastewater and septic systems, greater pollution burdens and human illnesses.²⁹

Threats

Outdated Systems and Sewage Spills

The EPA estimated in its last assessment that more than 850 billion gallons of raw sewage were being spilled each year across the country.³⁰ That's enough to fill more than 1 million Olympic-sized swimming pools. Sewer overflows can cause raw sewage to back up into basements, flood onto streets and spill into rivers, lakes and streams.³¹ While improvements have been made, this remains a problem in communities across the country.³²

Outdated systems are vulnerable to spills during storms. When there is heavy rainfall or snowfall, outdated wastewater systems overload, and large volumes of sewage spill into local waterways.³³ In 2014, nearly 1,500 different spills discharged at least 22 billion gallons of untreated sewage into the Great Lakes Basin alone.³⁴

Climate change is making things worse.³⁵ The storm surge caused by 2012's Hurricane Sandy—the largest storm to hit the Northeast to date—resulted in the spillage of 11 billion gallons of raw and partially treated sewage into waterways and city streets.³⁶ In 2021, Hurricane Ida also caused major spills of raw and partially treated sewage, including 350,000 gallons in Panama City, Florida;³⁷ nearly 1 million gallons in

Mobile, Alabama;³⁸ more than 130 million gallons in the Merrimack watershed, Massachusetts;³⁹ and hundreds of thousands of gallons in New Orleans.⁴⁰

Failing Septic Systems

Aging home septic systems add to the problem. Wastewater from failing septic systems is a large source of groundwater pollution in the United States.⁴¹ More than one in five U.S. households rely on home septic systems instead of a centralized sewer system. Together, these decentralized systems treat more than 4 billion gallons of sewage every day.⁴²

Many septic tanks are aging, failing, and endangering the environment and human health.⁴³ Households bear the burden of maintaining and updating their septic systems, but the cost is unaffordable for many low-income rural residents.⁴⁴ Failing household septic systems can contaminate water supplies and endanger human health.⁴⁵ A 2013 survey in Ohio estimated that 31 percent of household septic systems were failing.⁴⁶ Many rural residents in central Appalachia do not have a safe way to dispose of wastewater.⁴⁷

Failing septic systems have been associated with bacterial contamination of groundwater.⁴⁸ A 2003 study found that 40 percent of Alabama's septic systems were failing or in need of repair, while bacteria contaminated 46 percent of household water wells in the state, leaving an estimated 340,000 residents with greater risks of waterborne disease.⁴⁹ In Alabama's Black Belt region, because of rural poverty, structural racism, and soil characteristics, not only do many septic systems fail but also many homes use straight pipes that directly pour raw sewage into woods or a ditch. A 2016 survey of Wilcox County, Alabama found that only 7 percent of homes had permitted septic systems, while 60 percent of homes examined had straight pipes, which together released more than half a million gallons of raw sewage every day.⁵⁰ In Lowndes County, Alabama, a majority-Black county, at least 40 percent of homes lack adequate sanitation, and the cost of installing a system can exceed the average resident's annual income.⁵¹

Climate chaos will continue to amplify these problems. More systems will fail as sea levels rise, precipitation increases and temperatures warm.⁵²

Polluted Waters

Sewage spills harm the environment; they pollute rivers, streams, and other water bodies, and they can contain toxics and dangerous pathogens that endanger human health.⁵³ These toxic overflows have destroyed aquatic life, killed fish and closed shellfish harvesting areas.⁵⁴

Overall, because of all sources of pollution, two-thirds of estuaries in the United States have elevated risks of eutrophication (see box) and harmful algal blooms.⁵⁵ More than a third of the shoreline area of the Great Lakes is in fair or poor biological condition (a third of the area was unable to be studied).⁵⁶ Less than one-fifth of estuarine and Great Lakes waters have fish in good condition.⁵⁷ In total, more than half of U.S. rivers and streams, 40 percent of lakes and 21 percent of coastal waters have excess nutrients (which can lead to excessive algal growth and cause fish kills), and 73 percent of U.S. wetlands have lost plant life, which can stress the ecosystem.⁵⁸

Sewage spills have made water too polluted to swim, boat or fish.⁶⁰ In 2020, one-third of the recreational beaches in the United States had at least one advisory or closing. Over the last five years, between



Eutrophication

A process that occurs when an estuary or another body of water has an excess of nutrients that causes too many plants and algae to grow. This can lead to toxic algal blooms and low-oxygen waters that kill aquatic life.⁵⁹

28 percent and 33 percent of beaches have had at least one advisory or closing each year. Aging and poorly designed sewage and stormwater systems contribute to many of the beach closures.⁶¹ In 2020, wastewater and septic systems were responsible for one-fifth of the beach closings and advisories with known causes (although nearly half of closings have unknown causes, some of which may be related to wastewater events).⁶² Increased funding to improve wastewater systems and address stormwater can help stop pollution of the nation's beaches.



Human Illnesses

More than 7 million cases of waterborne diseases are reported in the United States every year.⁶³ As a result of these illnesses, more than 100,000 people are hospitalized and over 6,000 people die a year.⁶⁴ People become sick from drinking contaminated water; swimming in polluted pools, lakes and beaches; and other exposures to contaminated water.⁶⁵

The EPA estimated that thousands of people become sick each year just from exposure to sewage-contaminated recreation areas.⁶⁶ Wastewater contains viruses, bacteria and other pathogens that can cause serious illness. Many people are exposed to raw sewage that backs up in their homes or yards from overloaded municipal sewer systems or failing septic systems.⁶⁷ People exposed to sewage-polluted waters can become sick with hepatitis, gastroenteritis, and infections of the skin, lungs and ears, among other illnesses.⁶⁸

Failing septic systems can also expose people to high nitrate levels in household well water, which can lead to the potentially deadly blue baby syndrome in infants.⁶⁹ In Wilcox County, Alabama, researchers estimated that the raw sewage dumped from straight pipes from homes into the environment releases 10 billion viruses and 19 billion parasites every day.⁷⁰ In Lowndes County, Alabama, one study found that more than 40 percent of households were exposed to raw sewage, and more than a third of adults tested positive for gastrointestinal parasites, including hookworm.⁷¹

Conclusions and Recommendations

It's time for the WATER Act — the landmark 21st-century legislation that we need to restore federal support and help protect clean water. The WATER Act is the only permanent solution to our nation's water funding woes, providing \$35 billion each year to restore our public water infrastructure.

In addition to funding drinking water improvements, the WATER Act will provide \$18.1 billion each year to address the nation's wastewater problems:

- \$15.7 billion a year to the Clean Water State Revolving Fund to fund publicly owned wastewater system upgrades, with at least half of the funding prioritized as grants or additional subsidization to disadvantaged communities;
- \$871 million a year to help update and install household septic systems and other on-site sewage disposal systems;
- \$871 million a year for non-point-source management programs;
- \$523 million a year for pollution control programs; and
- \$174 million a year for technical assistance to rural, small or indigenous wastewater providers.⁷²

Now is the time to fully fund our wastewater infrastructure to help clean up our waterways and protect our communities.

Endnotes

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