TESTIMONY BY

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OF THE

NATURAL RESOURCES DEFENSE COUNCIL

Subcommittee on Communications and Technology

Committee on Energy and Commerce

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Thank you for the opportunity to testify today. My name is Scott Slesinger, and I am the Legislative Director for the Natural Resources Defense Council (NRDC). NRDC is a nonprofit organization of scientists, lawyers, and environmental specialists dedicated to protecting public health and the environment. Founded in 1970, NRDC has more than 3 million members and online activists nationwide, served from our offices in New York, Washington, Los Angeles, San Francisco, Chicago, and Beijing. I appreciate the opportunity to testify and will concentrate my remarks on the LIFT Act, H.R 2479 and the supposed barriers to new infrastructure environmental reviews.

This Congress has a very important responsibility to address the failing infrastructure that has made America less globally competitive and is undermining our quality of life. Our airports, our transportation system, our sewer and drinking water systems have been systematically underfunded since 1993 when the gas tax was last raised. Inflation has eroded the Transportation Trust Fund by over 40 percent. The funding for sewers and drinking water systems have suffered similar erosion. Any world traveler, and in fact, President Trump himself, has noted that the airports and roads of our country now suffer in comparison to other developed and even some developing countries. Lack of access to broadband limits economic vitality and limits educational opportunities in many underserved communities.

Every conversation on Capitol Hill about solving our infrastructure crisis begins with earnest statements that “all options are on the table” before immediately rescinding the solution.

The poor state of our infrastructure is not because of environmental reviews or permitting. Our problem is cash. The solution is the political will to appropriate the needed dollars. Environmental reviews and permitting are scapegoats.

A recent hearing of the Transportation and Infrastructure Committee on Army Corps of Engineer projects highlighted this point. The Corps has over $90 billion in approved, authorized projects—virtually all with completed environmental reviews. Some members

and witnesses argued for less environmental reviews as a solution. One of the witnesses, Nicole Carter of Congressional Research Service, was asked if NEPA is the cause of delay. She responded that in a study of 40 projects, 39 projects were slowed by a lack of federal funding[1]. With an annual budget of $5 billion; the problem is the missing $85 billion, not NEPA.

It's as though our house is burning down and instead of calling the fire department, our solution is to lower the thermostat.

Numerous studies from GAO and CRS show that it is not federal rules that are causing the delays. The number one problem is lack of funding, followed by state and local laws, citizen opposition to projects, and zoning restrictions. The widely quoted "Two Years Not Ten: Redesigning Infrastructure Approvals"[2] is based on questionable logic and outdated statistics debunked by Kevin DeGood of the Center for American Progress. For instance, the "Two Not Ten" study claimed the average permit time was 10 years for completion of an EIS but those statistics covered 1999 to 2011. DeGood's analysis[3] shows the average length is down to 3.6 years between 2012 through 2016. We believe newer data within the administration will show the trend toward faster processes is continuing.

Broadband deployment is not delayed by Environmental Impact Statements; in fact, no broadband project was ever required to do one by the Federal Communication Commission. Drinking water projects suffer from a lack of financing, not environmental review.

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[1] January 18,2018 https://transportation.house.gov/calendar/eventsingle.aspx?EventID=402108)

[2] Philip K. Howard, "Two Years Not Ten: Redesigning Infrastructure Approvals" (New York: Common Good, 2015), available at http://commongood.3cdn.net/c613b4cfda258a5fcb_e8m6b5t3x.pdf

[3] https://www.americanprogress.org/issues/economy/reports/2017/05/03/431651/debunking-false-claims-environmental-review-opponents/

Scapegoating NEPA may be a cheap applause line, but we cannot “streamline” our way to universal broadband access, new tunnels under the Hudson, a bridge over the Ohio River, or new sewer systems.

Why NEPA Matters

I would like the Committee to appreciate why the National Environmental Policy Act (NEPA) and the federal permitting requirements to protect our air, water and wildlife are so important. With an emphasis on "smart from the start" federal decision making, NEPA protects our health, our homes, and our environment. Led by Representative John Dingell and Senator Scoop Jackson and signed into law by President Nixon, the law was prompted in part by concerns from communities whose members felt their views had been ignored in setting routes for the Interstate Highway System. NEPA has empowered the public, including citizens, local officials, landowners, industry, and taxpayers, and demanded government accountability for more than 40 years.

NEPA is democratic at its core. In many cases, NEPA gives citizens their only opportunity to voice concerns about a federal project's impact on their community. When the federal government undertakes a major project such as constructing a dam, a highway, or a power plant, or if a private entity needs a federal permit so it can pollute the air or water, it must ensure that the project's impacts – environmental, economic and otherwise – are considered and disclosed to the public. And because informed public engagement often produces ideas, information, and solutions that the government might otherwise overlook, NEPA leads to better decisions – and better outcomes – for everyone. The NEPA process has saved money, time, lives, historical sites, endangered species, and public lands while encouraging compromise and resulting in better projects with more public support. Our website https://www.nrdc.org/resources/never-eliminate-public-advice-nepa-success-stories highlights NEPA success stories that prove this point.

Most recommendations to cripple the process try to limit public notice and comment are undemocratic. The first time a rancher learns of a pipeline going through his property

shouldn't be when an attorney shows up at his door with an offer to purchase under threat of taking the property by eminent domain. Thanks to NEPA, tens of thousands of Americans have participated in important federal decisions and projects have been made better because of it. And yes, some wasteful projects have died.

Recent Changes to the NEPA and Permitting Process

"Streamlining" or, more accurately, "steamrolling" has been an easy, no-cost way to pretend we are addressing delays in project delivery. Because many congressional committees have tried to assert jurisdiction over NEPA, there have been numerous and contradictory changes to the NEPA process made by Congress since 2005. Various bills have shortened public comment periods, changed the statute of limitations to four different time periods depending on the project, limited access to courts, and set up arbitrary deadlines for permit approvals. USDOT-led projects can now fine other agencies that miss deadlines; a provision that makes as much sense as debtors' prison.

Major changes occurred in October 2015 with the passage of the Fixing America Surface Transportation Act (The FAST Act). Title 41 of that bill, mandated a new inter-agency administrative apparatus called the Federal Infrastructure Permitting Improvement Steering Council—largely controlled by the Office of Management and Budget (OMB)—to set presumptive deadlines, push the resolution of interagency disputes, and allocate funding and personnel resources to support the overall decision-making process.

This infrastructure council was barely operational when the Administration changed. President Trump's first Infrastructure Permitting Executive Order – as the chief Senate sponsors, Senators Portman and McCaskill wrote in a letter to the President[4] – contradicted authorities and responsibilities already in FAST-41, to the consternation of project sponsors that were already participating in the permitting board's existing process. If the objective is to improve infrastructure project reviews and permitting,

[4] https://www.portman.senate.gov/public/index.cfm/files/serve?File_id=8D346523-409C-4893-8DB2-DF364423CA11

Congress' most important challenge is to exercise oversight over implementation. While we don't applaud everything in the law, its robust provisions were enacted just two years ago. The House appropriation for the steering council was a meager $1 million; probably not even enough to carry out the council's statutory requirement to track project schedules online. Why pass changes to NEPA to "reform", when Congress then fails to appropriate money to effectuate those changes but continues to try to layer on additional changes?

The President's revised Infrastructure Executive Order of August 15, 2017, ameliorated most of the inconsistences with the earlier order. However, that EO also gave a green light to wasteful federal construction in areas susceptible to flooding by revoking an executive order (E.O. 13690) that previously updated flood protection standards. These standards would make sure that public schools, hospitals, military bases, water treatment plants — all public facilities and infrastructure built with federal funding — are constructed with a higher margin of safety for floods and future sea level rise. Revoking these standards will ensure that billions of dollars are wasted rebuilding vulnerable public facilities that could have been built with greater resiliency features or in a safer location.

Despite enactment of this legislation in 2015 and other recent changes to NEPA, this Congress has seen many bills introduced in both chambers that would further amend the NEPA process without regard for their impact on process changes already made in FAST-41. Rather than simplifying current processes, these bills would create new conflicts, sow confusion, and delay project reviews.

Legislation has reached the House floor that would establish new and different and inconsistent permitting and NEPA processes for hydroelectric power projects, water supply projects, natural gas pipelines, international pipelines, fisheries and timber management, and other projects. Besides threatening our environment and natural heritage adopting new measures now would exacerbate effective administration of existing law. For example, USDOT's Inspector General confirmed the agency has been

hamstrung by repeated policy changes in recent Congresses. Although USDOT had completed most of the reforms mandated by MAP-21 in 2012, the Department was forced to delay implementation of others because they had to be revised to comply with additional requirements of the FAST Act.[5]

The recent draft infrastructure proposal from the White House is not a serious proposal but follows a pattern of falsely blaming project delays on basic environmental protections. The leaked provision would repeal critical clean air, clean water and endangered species protections and undermine basic environmental statutes. It would also set up a process guaranteed to neuter public input into federal actions and give agency heads free reign to virtually exempt any project from NEPA, free from court challenge.

Polling shows that Americans rightfully believe we do not have to sacrifice our environment to have a modern infrastructure system. We don't need to give the Interior Secretary carte blanche to build pipelines through every national park. We do need NEPA to help build a modern infrastructure system that is resilient, energy efficient, and takes into account the impact of a changing climate.

What should a new infrastructure bill do?

Last spring, NRDC released 21st-century infrastructure principles that we believe would produce real benefits to the nation. These principles that are detailed on our website[6], include:

- Public dollars must be used for the public good. When taxpayers pick up the tab, the public should be the beneficiary of that investment. We must prioritize performance-based infrastructure and projects that deliver economic, social and

[5] Office of the Inspector General, *Vulnerabilities Exist in Implementing Initiatives Under MAP-21 Subtitle C to Accelerate Project Delivery*, March 6, 2017, available at: https://www.oig.dot.gov/sites/default/files/DOT%20Implementation%20of%20MAP-21%5E3-6-17.pdf

[6] https://www.nrdc.org/sites/default/files/taking-high-road-more-and-better-infrastructure-ip.pdf

environmental benefits—such as jobs, improved mobility, and climate resiliency. Innovative financing and management though public-private partnerships are encouraged. However, any project that gives private investors special incentives must demonstrate value to the community over the long term, result in fair but not excessive profits, and allow for joint management with the public sector to ensure the public purpose is maintained.

- Innovation in clean energy and water should be a priority. Water and energy systems should meet 21st century needs. Unfortunately, almost all of these critical infrastructure systems were built in the 20th or even 19th century, in many cases relying on outdated technologies and practices. Technological innovations like smart meters and energy storage as well as upgrades to the nation's power infrastructure will enable us to take advantage of the clean, reliable, and cost-effective energy resources. We need water systems that rely more on distributed green infrastructure, water efficiency, and water reuse to complement our existing investments in gray infrastructure systems.

- Investment in Climate Resilient Infrastructure Projects and Smart Technology is critical. Climate and living patterns are changing rapidly. Infrastructure needs to be designed to meet the challenges of the next century, including rising sea levels, more intense storms, and longer droughts. It also means investment in new technologies and increasing demands on infrastructure systems as urbanization increases. Deploying information technology like broadband and wireless will help us get the data to run our cities and towns more efficiently and decrease the wear and tear on infrastructure. These systems can be added at minimal costs today. Projects should include high-quality connectivity in communities that don't have it, to promote affordable access for all.

- Accountability for Every Dollar. There must be public input and a public review of the project's benefits and potential impacts on wildlife, air and water quality, jobs and public health before any work is undertaken.

- Flexible funding should be allocated for local and regional infrastructure planning. The stream of federal dollars for infrastructure should go directly to communities rather than solely to states. Metropolitan Planning Organizations in the nation's large and small urban areas should be able to have direct access to funding so that local communities can fulfill their own infrastructure visions. This addresses, for example, the historic challenge of implementation funding for innovative local plans—some of which were years in the making under the interagency Partnership for Sustainable Communities—but were not funded by states. This local focus should also include the hiring of local workers for community projects, putting economic opportunity in the hands of the very people affected.

- Good, forward-looking jobs are important. We must prepare Americans for the future. Infrastructure projects are an opportunity for good jobs beyond construction. It's important that for construction projects, costs aren't reduced on the backs of bad deals for workers. New industries that accelerate an entire supply, like clean energy jobs are our future. The growth in clean energy and sustainable jobs is one of the brightest spots on our economic horizon.

We believe one of the bills that is subject of this hearing, H.R. 2479 Leading Infrastructure for Tomorrow's America Act, is a positive alternative to the scapegoating and diversionary tactics of attacking environmental laws and properly addressing our infrastructure needs. For jurisdictional purposes, it only covers programs and projects in this Committee's purview but is a good template for the other committees with jurisdiction over infrastructure to really address the issue rather than pretend we can make a silk purse out of a sow's ear.

I want to specifically mention the LIFT's Act provisions addressing our drinking water problems including lead pipes. Toxic lead that impacts children's mental development cannot be a partisan issue. Making American children safe from lead poisoning needs to be addressed and addressed now. I have attached to my written testimony, the more detailed testimony of my colleague Larry Levine. This testimony addresses both

drinking and surface water infrastructure needs and recommendations to address the very important affordability issues.

We ask the Congress to seriously address our infrastructure needs, to take into account the threats from climate change and build resilient and energy efficient systems that improve the quality of life with an infrastructure plan attuned to the needs of the 21st century. We can do this smarter and better --by using --not crippling, the environmental review process.

Thank you for the opportunity to testify. NRDC looks forward to working with the committee on bold and effective solutions to our nation's infrastructure challenges.

TESTIMONY OF
LAWRENCE M. LEVINE
SENIOR ATTORNEY
NATURAL RESOURCES DEFENSE COUNCIL

BEFORE THE
U.S. HOUSE OF REPRESENTATIVES
TRANSPORTATION AND INFRASTRUCTURE COMMITTEE
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

HEARING ENTITLED
"BUILDING A 21ST CENTURY INFRASTRUCTURE FOR AMERICA:
WATER STAKEHOLDERS' PERSPECTIVES"

SEPTEMBER 26, 2017

Good morning Chairman Graves, Ranking Member Napolitano, and members of the Subcommittee. I am Lawrence M. Levine, senior attorney in the Water Program at the Natural Resources Defense Council (NRDC). I appreciate the opportunity to testify today on behalf of NRDC.

Summary of Testimony

In my testimony today, I will emphasize the critical need for major, new federal investment in water, wastewater, and stormwater infrastructure, in order to protect human health and the environment. In much of the country, our aging infrastructure is simply not up to the twin tasks of providing everyone with access to the safe water and sewer services they need and keeping our waterways free of harmful pollution. The scale of the need is so vast that, without a large and lasting commitment of new funds from the federal government – leveraged with additional funds from the states – our communities will not be able to fund the investment they so badly need to bring their water systems into the 21st Century.

Specifically, NRDC offers the following top recommendations:

- Increase the current annual appropriations to the Clean Water and Drinking Water State Revolving Funds (the SRFs) to $6 billion, which would mark a return to a similar level, adjusted for inflation, as was appropriated under President Reagan for the CWSRF alone.

Direct the additional funds to water efficiency, green infrastructure, hardship communities, source water protection, nutrient reduction, lead service line replacement, water loss control, and climate resilience.

- Provide incentives to states to leverage federal funds and invest more state dollars in water infrastructure, by allowing states that exceed the minimum required match for federal SRF capitalization grants to distribute a larger share of their SRF funding as grants, rather than loans.

- Reauthorize and improve the sewer overflow control grant program under Clean Water Act Section 122.

- Improve implementation of existing requirements, enacted in 2014, that promote the use of water efficiency, recapture, and reuse strategies in CWSRF-funded projects.

- Ensure that water and sewer service remains affordable for low-income households, even as utilities generate additional local revenue to meet clean water needs.

    - Prioritize disadvantaged communities in water infrastructure grant programs.

    - Create a federal low-income water and sewer assistance program (analogous to the Low Income Home Energy Assistance Program) to help maintain affordable water and sewer costs at the household level.

    - Use federal policy to spur creation of complementary state and local customer assistance programs; promote more equitable water and sewer rate structures; and increase utilities' use of asset management, green infrastructure, and water efficiency strategies that reduce costs for all customers.

- Reinstate the Federal Flood Risk Management Standard, to protect the value of federal water infrastructure investments by reducing the risk of severe damage in future flood disasters.

- Support tools for effective prioritization of pipe replacement and leakage control.

- Preserve and strengthen source water protections, including the Clean Water Rule, to protect health and reduce treatment costs.

Finally, NRDC urges Congress to ensure that all federal infrastructure funding, including water infrastructure funding, is guided by principles that maximize the benefits of public investment.

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Federal Infrastructure Funding, Including Water Infrastructure Funding, Should Be Guided by Principles that Maximize the Benefits of Public Investment

As the Transportation and Infrastructure Committee prepares to consider federal infrastructure investment – including, but not limited to, water infrastructure – I would like to share the broad principles for infrastructure investment that NRDC urges the nation to follow:

- Use public funds in ways that simultaneously deliver economic, social, and environmental benefits;
- Spur innovation in clean and efficient water and energy systems;
- Invest in climate-resilient infrastructure projects and smart technology;
- Ensure accountability for every dollar, including robust public input and review through compliance with the National Environmental Policy Act requirements;
- Allocate flexible funding for local and regional planning; and
- Create good, forward-looking jobs, beyond the construction phase of infrastructure projects.[1]

For water, wastewater, and stormwater infrastructure, specifically, we also urge Congress to embrace a set of key principles: We must increase federal investment now to address the enormous outstanding needs – which I discuss at length below – by expanding existing State Revolving Funds, leveraging additional investment by states and local governments, and exploring new and innovative funding sources. This additional funding should encourage natural and nature-based infrastructure solutions for water system needs, including source water protection, floodplain restoration, water use efficiency, and stormwater retention and infiltration – all of which offer wide-ranging and cost-effective benefits to communities. It should also support infrastructure projects that are designed, sited, and built with the full consideration of the future impacts of climate change.

Further, water infrastructure investments must ensure communities and families in the greatest need are not left behind. Federal funds should assist communities facing large gaps between their infrastructure needs and their ability to raise or repay funds from local sources. Federal funds and policies should also support customer assistance programs and equitable rate structures that help maintain affordable water and sewer costs for low-income households. In addition, we can amplify benefits to the economy by incorporating Buy American domestic sourcing requirements, and prevailing wage provisions, and green job opportunities.

Finally, increased funding should not support extending service in ways that facilitate sprawl development. It should not come at the expense of reductions in federal funding for other environmental investments or regulatory programs. Nor should this funding be linked to reduced environmental protections under the Clean Water Act, Safe Drinking Water Act, Endangered Species Act, National Environmental Policy Act, and other statutes.

[1] These principles are laid out more fully on NRDC's website here: https://www nrdc.org/experts/shelley-poticha/infrastructure-works-america-not-just-wall-street.

The United States Must Significantly Increase Public Investment in Municipal Water Infrastructure to Protect Public Health and the Environment

First-class infrastructure to protect clean water and public health is among our most important – and most basic – needs as a nation. Across the country, America's municipal wastewater and stormwater infrastructure is outdated and failing due to decades of deferred maintenance and a failure to implement up-to-date pollution control technologies. Far too often, all across the country, untreated or insufficiently treated sewage and polluted runoff from cities and suburbs makes our rivers, bays, beaches, estuaries, and other inland and coastal waters both unsafe for human use and too degraded to support the fisheries and natural habitat on which we all depend for sustenance, recreation, and natural flood mitigation. Water quality in and downstream of urbanized areas is too degraded to meet water quality standards established under the Clean Water Act to protect drinkable, fishable, and swimmable waters.

Likewise, in regard to drinking water infrastructure, although many utilities have substantially improved treatment in recent years, our failure to invest adequately in water infrastructure means that, in too many cases, the public is still drinking water containing contaminants that pose serious health risks.[2] We remain at risk from lead, arsenic, bacteria and other pathogens, cancer-causing disinfection byproducts, the rocket fuel component perchlorate, and many other regulated and unregulated contaminants. One very visible manifestation of failing drinking water infrastructure is the estimated 240,000 water main breaks per year.[3] Even more water is lost to unseen leaks and breaks that never reach the surface. This not only wastes enormous amounts of precious water and causes serious damage to roads and property, it also can pose significant public health risks. Particularly when water mains are close in proximity to sewer lines, fecal contamination can get into the drinking water after a rupture or pressure loss, posing a threat of causing a waterborne disease outbreak. Drinking water treatment plants, too, suffer from outdated infrastructure. Far too many continue to rely solely upon outdated treatment technologies such as coagulation, sand filtration, and chlorination. These can work well to remove some basic contaminants, like certain microorganisms, but cannot remove many of the modern contaminants, such as pesticides, industrial chemicals, pharmaceuticals, and other chemicals that are widespread in water.[4] Further, there are an estimated 6-10 million lead service lines in the U.S. that need to be replaced.[5]

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[2] For further detail on drinking water infrastructure needs, see Testimony of Erik D. Olson, NRDC, Before the Committee on Energy and Commerce, Subcommittee on Environment, U.S. House of Representatives, Hearing Entitled "Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems" (March 16, 2017), http://docs house.gov/meetings/IF/IF18/20170316/105711/HHRG-115-IF18-Wstate-OlsonE-20170316.pdf.

[3] American Society of Civil Engineers, *2013 Report Card for America's Infrastructure*, http://www.infrastructurereportcard.org.

[4] NRDC, "Report Finds Deteriorating Infrastructure, Pollution Threaten Municipal Drinking Water Supplies," 2003, https://www nrdc.org/media/2003/030611; Erik Olson et al., NRDC, "What's on Tap?" 2003, https://www.nrdc.org/sites/default/files/whatsontap.pdf; Brian Cohen and Erik Olson, "Victorian Water Treatment Enters the 21st Century," NRDC, 1995.

[5] Cornwell, David A.; Brown, Richard A.; Via, Steve H., "National Survey of Lead Service Line Occurrence," April 2016, Journal of the American Water Works Association, vol. 108, no. 4, pages E182-E191, available online at http://dx.doi.org/10.5942/jawwa.2016.108.0086.

Based on data from the states, which was self-reported in 2011-2012 by local governments and utilities responding to a voluntary survey, the Environmental Protection Agency identified more than $660 billion that must be invested in water, wastewater, and stormwater infrastructure over the next 20 years to meet current environmental protection and public health needs ($271 billion for sewage systems and stormwater and $384 billion for drinking water).[6] EPA's reports acknowledge that these are under-estimates, due to incomplete survey responses and limitations in the survey methodology. The Value of Water Coalition – which includes drinking water and wastewater utilities and their national associations – estimates a far greater need: at least $123 billion per year over the next decade to achieve a good state of repair.[7] These numbers do not include the $30 to $40 billion that the American Society of Civil Engineers has estimated it would take to replace lead service lines around the country.[8]

These numbers also do not include the cost of additional improvements needed to make the nation's drinking water, wastewater and stormwater systems more resilient to the challenges posed by climate change. The national associations representing wastewater and drinking water utilities estimate that impacts of climate change could add between $448-$944 billion to the nation's water infrastructure needs through 2050.[9] These impacts include disruption of water supplies from drought; potential for damage to treatment facilities and collection and distribution systems from floods, hurricanes, and coastal storms; and the growing threat of inundation and resulting loss of facilities attributable to rising sea levels.[10]

An increasing risk of flooding, especially in coastal areas, is extremely problematic, as water and sewage treatment plants often are built in low-lying areas, close to a water supply source or a receiving water for treated effluent. Between 1998 and 2014, the Federal Emergency Management Agency, alone, spent $10.3 billion to repair flood-damaged public utilities.[11] Within just the last month, Hurricanes Harvey and Irma overwhelmed many drinking water and wastewater treatment systems in Florida and Texas, illustrating the sorts of damage that climate change continues to make increasingly likely. After Irma, millions of gallons of treated and untreated wastewater poured into Florida's waterways, streets, and neighborhoods as sewage

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[6] EPA, *Drinking Water Infrastructure Needs Survey and Assessment, Fifth Report to Congress* (Apr. 2013), available at https://www.epa.gov/sites/production/files/2015-07/documents/epa816r13006.pdf; EPA, *Clean Watersheds Needs Survey, Report to Congress* (Jan. 2016), available at https://www.epa.gov/sites/production/files/2015-12/documents/cwns_2012_report_to_congress-508-opt.pdf.

[7] Value of Water Campaign, *The Economic Benefits of Investing in Water Infrastructure* (2017), available at http://thevalueofwater.org/sites/default/files/Economic%20Impact%20of%20Investing%20in%20Water%20Infrastructure_VOW_FINAL_pages.pdf.

[8] American Society of Civil Engineers, *Failure to Act: Closing the Infrastructure Investment Gap for America's Economic Future* (2016), available at http://www.infrastructurereportcard.org/wp-content/uploads/2016/05/ASCE-Failure-to-Act-Report-for-Web-5.23.16.pdf.

[9] National Association of Clean Water Agencies (NACWA) and Association of Metropolitan Water Agencies (AMWA), *Confronting Climate Change: An Early Analysis of Water and Wastewater Adaptation Costs* (2009), available at http://www.amwa.net/galleries/climate-change/ConfrontingClimateChangeOct09.pdf.

[10] For example, see American Society of Civil Engineers, 2017 Infrastructure Report Card, https://www.infrastructurereportcard.org/cat-item/wastewater/.

[11] NRDC, "The Need for Flood Protection Standards" (Nov. 30, 2015), https://www.nrdc.org/resources/need-flood-protection-standards.

treatment plants were submerged. Miami's South District Wastewater Treatment Plant reported that 6 million gallons of sewage spilled into Biscayne bay.[12] Hurricane Harvey impacted multiple drinking water systems, resulting in 166 declaring boil-water notices and 50 shutting down.[13] In Beaumont, Texas, over 118,000 people were without safe drinking water for several days after floodwaters knocked out the city's water supply.[14] While Hurricanes Harvey and Irma were extreme events, climate change makes such events more likely, as rising sea levels allow storm surge to travel farther inland and a warmer atmosphere increases the likelihood for intense rain storms. Investing today to protect against these threats can save billions of dollars in avoided future damages.

Despite the staggering need to improve our water infrastructure, **aggregate capital spending at the local, state, and federal level is currently just $41 billion per year – far short of the total need**.[15]

Moreover, as the need for investment has grown, **the share of federal contribution to water infrastructure spending has fallen significantly over the past 30 years**.[16]

We must increase federal water infrastructure investment now to address this enormous outstanding need. This will yield both environmental and economic benefits for our communities. It is estimated that $188.4 billion spent on water infrastructure investments over a 5-year period would yield $265 billion in economic activity and create 1.9 million jobs.[17] EPA found similar results for economic stimulation and job creation, determining in 2010 that the Clean Water State Revolving Fund had leveraged more than $74 billion in water infrastructure investment, creating 1.4 to 2 million jobs for the U.S. economy since 1988.[18] And a more recent analysis found that investing the estimated $82 billion per year in water infrastructure needed to fix the nation's pipes and water treatment plants could create $220 billion in annual economic activity and result in 1.3 million jobs annually.[19]

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[12] J. Dloughy and A. Natter, "Cities Swimming in Raw Sewage as Hurricanes Overwhelm Systems," *Bloomberg* (Sept. 13, 2017), https://www.bloomberg.com/news/articles/2017-09-13/cities-swimming-in-raw-sewage-as-hurricanes-overwhelm-systems.

[13] EPA, "Status of Water Systems in Areas Affected by Harvey" (Sept. 3, 2017), https://www.epa.gov/newsreleases/status-water-systems-areas-affected-harvey.

[14] Debbie Elliot, "With Flooded Streets And No Tap Water, Unknowns Face Beaumont, Texas, Residents," *National Public Radio – Morning Edition* (Sept. 1, 2017), http://www npr.org/2017/09/01/547774586/beaumont-texas-is-without-running-water; City of Beaumont, "Public Information: Boil Water Notice to Rescind," (Sept. 9, 2017), http://beaumonttexas.gov/public-information-boil-water-notice-rescind/.

[15] Value of Water Campaign, *The Economic Benefits of Investing in Water Infrastructure* (2017).

[16] *Id*.

[17] Rockefeller Foundation, American Rivers, and Economic Policy Institute, *Water Works* (2011) at 24, available at https://www.epi.org/publication/water-works-infrastructure-report/.

[18] EPA, *Clean Water State Revolving Fund Programs Annual Report* (June 2010), available at http://water.epa.gov/grants_funding/cwsrf/upload/2009_CWSRF_AR.pdf.

[19] Value of Water Campaign, *The Economic Benefits of Investing in Water Infrastructure* (2017).

We cannot meet our most basic water infrastructure needs without a huge increase in direct **public** investment by the federal and state governments. Private investment can play, at most, only a modest role in solving these problems. Private investors require a return on their investment, which, in the case of water, wastewater, and stormwater infrastructure, is derived from rate revenues. Yet, in many places across the nation, the scale of investment needed to fully solve water infrastructure problems is greater than local ratepayers can support alone. A federal infrastructure policy that relies principally on private investment would simply fail to meet our nation's massive water infrastructure needs, particularly in rural states and poor communities.

For example, of the 53,000 community drinking water systems in the United States, thousands are currently unable to comply with basic drinking water standards.[20] This is especially the case in lower income communities in rural areas, as well as many cities that are having financial struggles. The communities that are having the largest challenges providing safe water are not attracting private infrastructure investment and will not be able to do so. They lack the economies of scale that can attract investors (in the case of small troubled systems), or lack the income levels among many of the customers to support sufficient revenue to pay for private investment (in the case of both rural and urban systems in areas like Flint, Michigan or San Juan, Puerto Rico, that are financially challenged).

Congress Should Triple the Size and Improve the Deployment of State Revolving Fund Appropriations, Reestablish a Grant Program for Sewer Overflow Control Projects, and Provide Incentives for Larger State Investments in Water Infrastructure

The federal government provides critical support to help communities meet their water infrastructure needs through the Clean Water and Drinking Water State Revolving Funds (hereafter "CWSRF" and "DWSRF," or collectively "the SRFs"). Since their inception, the SRFs have provided $138.9 billion to local communities, almost all of which has been in the form of low-interest loans.[21]

Both increased SRF and related water infrastructure funding and better deployment by states of available funds are necessary to meet our water infrastructure investment needs. NRDC recommends a major increase in annual SRF appropriations, with a priority on providing more financial support to meet low-income communities' water infrastructure needs, increasing investments in environmentally innovative projects, and preparing our water systems for the uncertainties of operating in a future defined by the impacts of climate change. We recommend changes in federal SRF rules that would spur states and communities to take advantage of the full range of financial assistance that the SRFs are able to provide. We also support proposals to reauthorize the sewer overflow control grant program, which would complement the SRF. And we recommend more effective implementation of SRF policies that Congress adopted in 2014,

[20] NRDC, "Threats on Tap: Widespread Violations Highlight Need for Investment in Water Infrastructure and Protections," (May 2, 2017), https://www.nrdc.org/resources/threats-tap-widespread-violations-water-infrastructure.

[21] Since 1987 the CWSRF has provided $111 billion to communities. See https://www.epa.gov/cwsrf. Since 1996 the DWSRF has provided $27.9 billion to communities. See https://www.epa.gov/drinkingwatersrf/how-drinking-water-state-revolving-fund-works#tab-1.

which were intended to maximize the use of water efficiency, recapture, and reuse strategies that allow federal water infrastructure investments to achieve more "bang for the buck."

Congress Should Increase SRF Funding and Establish Priorities for Use of Additional Funds

Congress should increase its long-term commitment to federal water infrastructure funding by reauthorizing and increasing appropriations to the SRFs. NRDC recommends that Congress increase combined funding to the SRFs to $6 billion annually, which would mark a return to a similar level, adjusted for inflation, as was appropriated under President Reagan for the CWSRF alone. We note that the President, during his election campaign last year, pledged to do just that.[22]

Congress should dedicate the approximately $4 billion in new federal funding, which would result from such an increase, to the following priorities that are currently under-represented in the states' portfolios of SRF assistance:

- Water efficiency, water reuse, and water recycling;
- Green infrastructure;
- Source water protection;
- Reducing nitrogen and phosphorus pollution from wastewater and stormwater;
- Removing lead service lines that endanger the health of 22 million Americans;[23]
- Reducing the amount of water that is wasted due to old, leaky water mains;
- Fixing deteriorating and outdated drinking water infrastructure, especially in disadvantaged communities that cannot ensure that safe water is provided to their residents; and
- Ensuring that our water infrastructure is designed to withstand the increased risk of droughts, floods, and other impacts of climate change.

Congress should revise the SRF cap on "additional subsidization" to encourage states to leverage their SRF programs

Congress should amend policies governing states' use of the SRF in ways that encourage states to leverage their SRF programs. Congress appropriates funding each year, which is distributed by EPA to states according to a needs-based formula. States are required to provide a minimum

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[22] Sharon Verbeten, "What Will the Trump Administration Mean for the Water, Wastewater Industry?," *Municipal Water & Sewer* (Jan. 24, 2017), http://www mswmag.com/online_exclusives/2017/01/what_will_the_trump_administration_mean_for_the_water_wastewater_industry.

[23] Cornwell, David A.; Brown, Richard A.; Via, Steve H., "National Survey of Lead Service Line Occurrence," April 2016, *Journal of the American Water Works Association*, vol. 108, no. 4, pages E182-E191, available online at http://dx.doi.org/10.5942/jawwa.2016.108.0086.

20 percent match to the annual federal contribution. Many states only invest the minimum match each year, relying on their share of annual federal appropriations to incrementally grow their SRFs' financial capacity. This approach is insufficient to meet the growing water infrastructure needs of communities in those states. But some states do much more to leverage their existing SRF programs and provide more assistance to communities, simply by making use of the full range of financing mechanisms the SRFs are authorized to support under state and federal law. As shown below, these states include Indiana, Texas, Ohio, New York, and Massachusetts, among others.

The SRFs can provide financial support through a variety of mechanisms including:[24]

- low-interest or no-interest loans,[25]
- the purchase of debt,
- loan guarantees or municipal bond insurance if this would improve the credit for the local obligation,
- revenue or security for state issued bonds that are deposited back into the SRF,
- loan guarantees to establish local revolving funds that are used for purposes identical to the state's CWSRF,[26] and
- loans where the principal and interest can be forgiven, effectively allowing the SRFs to issue grants, also known as "additional subsidization" or "subsidized assistance."[27]

If existing SRF financing mechanisms that are currently authorized in statute, like the ability to issue bonds and provide loan guarantees, were more widely deployed by the states, new capital could be mobilized to meet the nation's water infrastructure needs.

To realize this untapped potential, Congress should create incentives for more states to contribute additional resources to their SRFs, beyond the money given to them by the federal government and their minimum 20 percent state match. NRDC wants to see states use their SRFs more creatively, by investing more of their own resources, by providing assistance in the form of loan guarantees, and by distributing more funding as grants to low-income communities and for environmentally innovative projects, like green infrastructure and water efficiency.

This could be accomplished by changing the cap that Congress places on the amount of assistance that states can distribute as grants, known in SRF circles as "additional subsidization." Under the Drinking Water SRF, hardship communities are eligible for additional subsidization.[28]

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[24] For CWSRF see 33 U.S.C. 1383(d) and for DWSRF see 42 U.S.C. 300(j)-12(f).

[25] Loan terms can be for up to 30 years under the CWSRF and 20 years under the DWSRF.

[26] Local revolving loan funds are not eligible for support from DWSRFs.

[27] States are allowed to provide "additional subsidization" to SRF applicants in the form of forgiveness of the principal and interest on SRF loans, grants, or negative interest rate loans. The amount that states can provide in additional subsidization is capped at 30 percent of a state's annual share of Congressional SRF appropriations.

[28] 42 USC 300j-12(d).

Under the Clean Water SRF, those communities, as well as communities that will use SRF funds to promote green infrastructure, water efficiency and reuse, and climate resiliency, are eligible for additional subsidization.[29] Under current law, states can only provide subsidized assistance (e.g., grants) up to an amount that equals 30 percent of their annual federal SRF funding and they are barred from providing more, even if they have the financial capacity to do so. [30] In some states, the cap effectively may keep SRF programs from deploying 100 percent of their available funds, whether by grants or loans; funds available for loans can go unclaimed when municipalities lack the credit to borrow even at SRF-subsidized interest rates.

NRDC recommends amending the SRF statutes to base the cap on additional subsidization on a 10-year rolling average of how much states have invested in their SRF above and beyond their minimum (20 percent) federal match requirements. This reform would provide incentives for states to contribute more funding to their SRFs and allow them to distribute most of those dollars to hardship communities and communities that want to promote green infrastructure, water efficiency and reuse, and climate resiliency. We also recommend that eligibility criteria for additional subsidization under the DWSRF be amended to reflect similar project-specific criteria as currently exist in the CWSRF.[31]

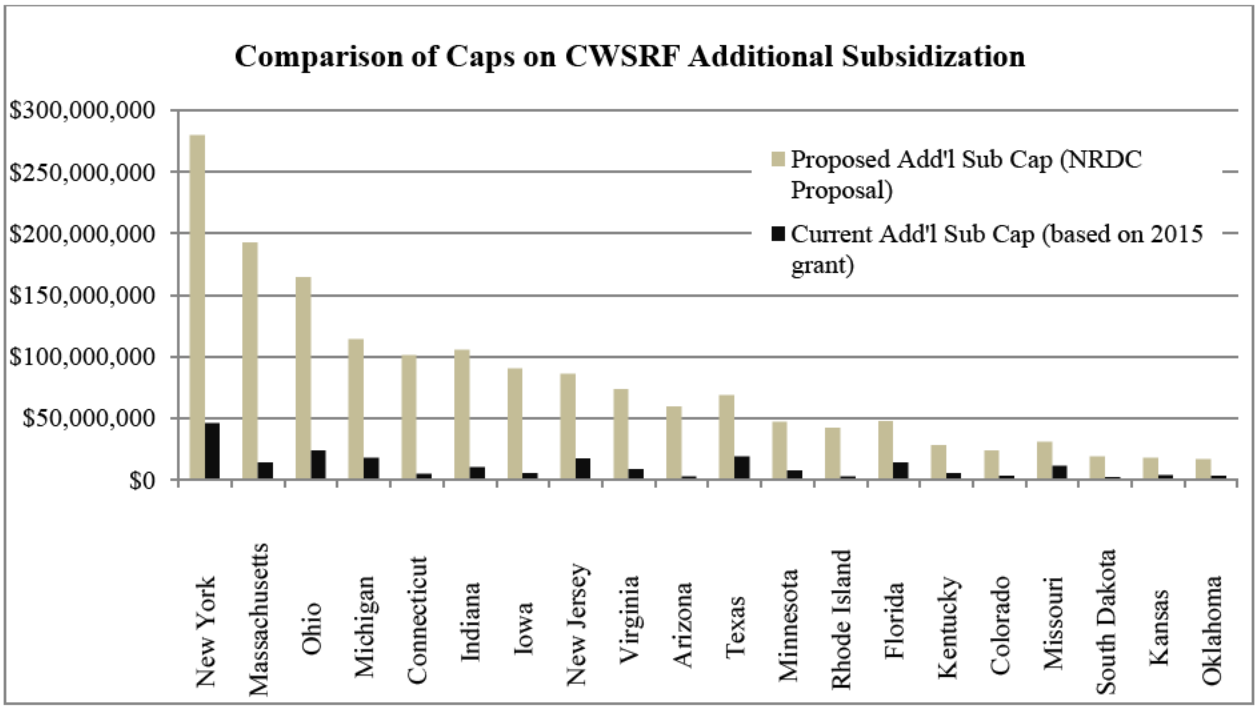
Twenty states could immediately benefit from changing the cap, including Ohio, Indiana, Texas, New York, and Massachusetts. These twenty states have contributed, on average, nearly $70 million per year over the last ten years, on top of the minimum 20 percent SRF match required to receive new federal funding. Currently those states can, on average, only provide $11.2 million of grant assistance each year. Under our proposal, these states would be able to distribute, on average, an additional $69.3 million per year as grants or other forms of subsidized assistance for eligible projects.

The graph below shows how states that have a history of contributing more than the minimum 20 percent match to their CWSRF could benefit from a statutory change in the definition of "additional subsidization" envisioned by NRDC.

[29] 33 USC 1383(i)(1).

[30] 42 USC 300j-12(d)(2) and 33 USC 1383(i)(3).

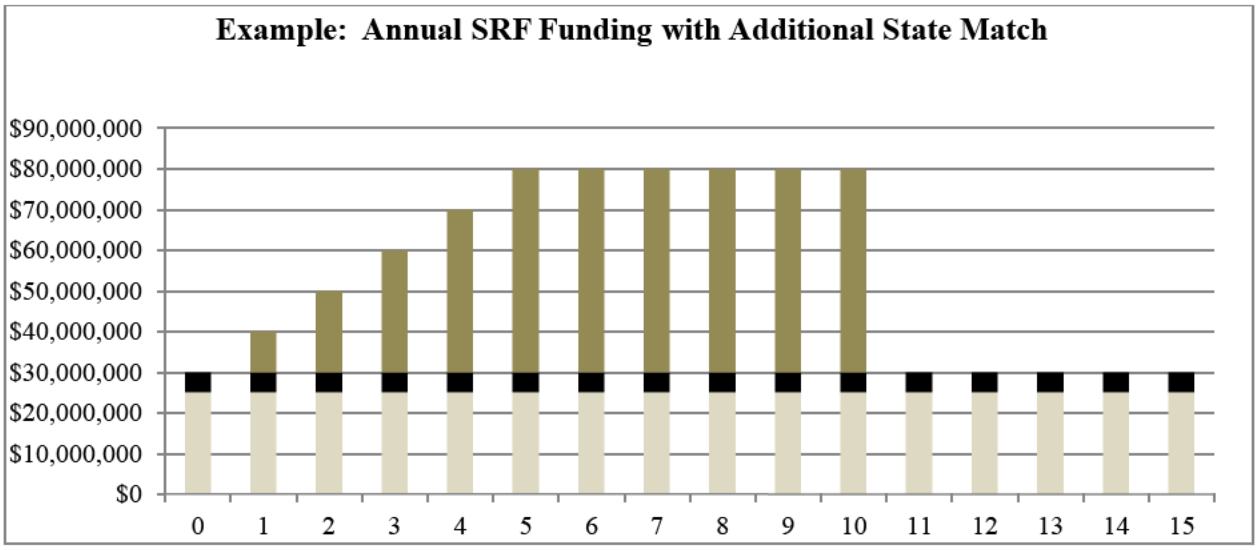
[31] 33 USC 1383(i)(1)(B).



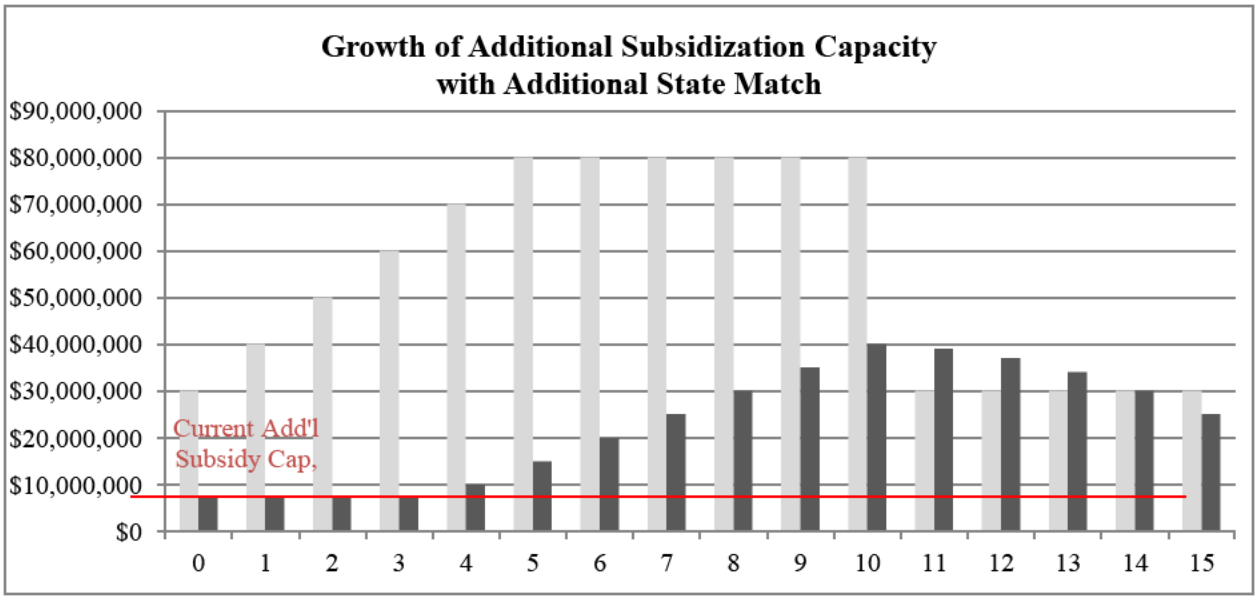
Graph 1: Many states routinely deposit more than the minimum 20 percent match to their CWSRF. The states above have deposited revenues from bond sales, growing their CWSRF's financial capacity. These states could immediately be able to provide more in subsidized assistance to eligible SRF projects.

Even states that have not regularly made increased SRF contributions would be able to benefit in short order. A theoretical state that received a $25 million capitalization grant each year from EPA would provide a minimum $5 million match. If that state contributed an additional $400 million over ten years (the dark gray bars in the graph below) through bonding or direct appropriations, it would not only grow its SRF's overall financial capacity, but under NRDC's proposal, would be able to provide more grant funding to eligible recipients.

Significantly, this ability to provide more grants to communities – not just loans – can provide a valuable incentive for states to use their SRFs as a source of revenue or security for state-issued bonds, the proceeds of which would be deposited back into the SRF to support water infrastructure projects. A state's SRF has a credit rating that is independent of (and may often be higher than) the state's own bond rating, which means that bonds issued against the SRF can be a low-cost way for the state to raise funds for water infrastructure investment. With an increased cap on additional subsidization, states would be able to borrow against the SRF at low cost and use the proceeds for grants to eligible projects – not only for loans. The ability to offer grants makes such bonding a more politically attractive proposition, while enabling states to provide more assistance to communities that have limited financial capacity to take on new SRF loans.



Graph 2: A simple model of how a state might add $400 million over ten years to an SRF. Light grey represents the annual EPA capitalization grant, black is the state's minimum 20 percent match, and the dark grey represents additional state investments.



Graph 3: How that $400 million (light grey bars) could increase the amount of subsidized assistance under NRDC's proposal, which would base the cap on a 10-year rolling average of state contributions that exceed the 20 percent minimum SRF match. The cap on subsidized assistance would be based on either the existing cap (30 percent of the EPA capitalization grant) or the proposed cap based on the 10-year rolling average, whichever is higher.

Congress should reauthorize and improve the sewer overflow control grant program under Clean Water Act Section 122

Section 202 of H.R. 2510, the Water Quality Protection and Job Creation Act of 2017, would not only reauthorize the Clean Water State Revolving Fund, it would also reauthorize the separate – but complementary – sewer overflow grant program under Section 122 of the Clean Water Act (33 USC § 1301). That grant program was originally authorized only for two years, from 2002-2003. H.R. 2510 authorizes $500 million per year for the next five years and expands the program to include stormwater capture and reuse projects. It also creates within the program a 20 percent set-aside for "green infrastructure, water and energy efficiency improvements, and other environmentally innovative activities," comparable to the successful set-aside for this purpose in the American Recovery and Reinvestment Act of 2009. It would retain the existing language in the statute that creates a priority for "financially distressed communities." NRDC supports this proposal. It provides an avenue for increasing grants (rather than loans), in sizeable amounts, to disadvantaged communities that need major infrastructure upgrades to protect water quality and human health. By including stormwater reuse as an eligible use of the funding, and providing a set-aside for green infrastructure and efficiency, it would also support cost-effective projects that provide multiple benefits beyond water quality improvement.

Congress should improve implementation of existing requirements, enacted in 2014, that promote the use of water efficiency, recapture, and reuse strategies in CWSRF-funded projects

In the Water Resources Reform and Development Act of 2014 (WRRDA), Congress made several changes to the law governing the CWSRF, including a new provision to spur greater use of water efficiency, recapture, and reuse strategies that provide communities with an array of benefits and cost savings. By making the best use of these approaches, utilities can achieve clean water goals at lower cost, thereby allowing Congress to achieve more "bang for the buck" with federal water infrastructure investments.[32] However, over the last several years, EPA has not followed through on Congress's intent. We urge Congress to ensure that that the new provision is implemented effectively, and we call the Subcommittee's attention to a technical resource that NRDC developed specifically to support that goal.

In particular, WRRDA added a new Section 602(b)(13) to the Clean Water Act, which requires all CWSRF applicants to certify that they have "studied and evaluated the cost and effectiveness of the processes, materials, techniques, and technologies for carrying out the project or activity

[32] Water efficiency measures (e.g., water-efficient fixtures and appliances, installation and upgrades of meters, volumetric water and wastewater pricing) not only save water, they also help to reduce both capital and operating costs associated with drinking water and wastewater systems by helping to avoid, minimize, or defer the need for expanded conveyance, collection, and treatment capacity, and by reducing energy needs for pumping and treatment. See NRDC, *Waste Less, Pollute Less: Using Urban Water Conservation to Advance Clean Water Act Compliance* (2014), https://www.nrdc.org/sites/default/files/clean-water-act-urban-conservation-IB.pdf. Likewise, recapture and reuse methods are often more cost-effective than relying exclusively on expanding "gray" infrastructure capacity, as cities across the country are demonstrating through their use of green infrastructure techniques (such as porous pavement, green roofs, parks, roadside plantings, rain gardens, and cisterns) to prevent the discharge of polluted runoff and sewage overflows and mitigate flood risk. These techniques keep rainwater out of overburdened sewers and treat it as a resource, rather than a waste, allowing it to infiltrate into the soil for groundwater recharge or be harvested and used as an alternative water source for onsite purposes.

for which [SRF] assistance is sought," and have "selected, to the maximum extent practicable, a project or activity that maximizes the potential for efficient water use, reuse, recapture, and conservation, and energy conservation." EPA, in its guidance on the WRRDA changes to the SRF, failed to develop specific criteria and/or guidance for an analysis that would meets these minimum statutory requirements. Instead, EPA recommended that each state CWSRF program develop such criteria and/or guidance for applicants in conducting this analysis.[33] In the absence of substantive EPA guidance, we believe most states are doing little to ensure that SRF-funded projects actually maximize the use of cost-effective water efficiency, reuse, and recapture techniques, and that they are therefore wasting money.

To help fill this gap and assist states and program applicants, NRDC worked with Stratus Consulting to develop guidelines for conducting the kind of assessment that Congress required.[34] These guidelines provide a general framework and methodology that states and utilities can easily adopt to evaluate the benefits and costs associated with different project options, and that states can use to confirm the consideration of such options by all CWSRF applicants. The guidelines' overall objective is to help applicants develop and analyze a range of project alternatives when evaluating potential CWSRF projects, including both traditional and non-traditional infrastructure alternatives (i.e., efficiency, reuse, and recapture project elements), and select the option or mix of options that best meets the needs of the utility and the community it serves.

Congress, State and Local Governments, and Utilities Should Work Together to Ensure that Water and Sewer Service Remains Affordable for Low-Income Households, Even as Utilities Generate Additional Local Revenue to Meet Clean Water Needs

We do not want to have in this country a two-tiered system where the wealthy get water that is clean and safe for their families, and the less well-to-do get second-class water, wastewater, and stormwater systems that pose risks to their health and environment.

Rather, we need to create a system that ensures that all communities can afford to upgrade their water infrastructure and that everyone has affordable access to clean, safe, and sufficient water and sanitation for their families.

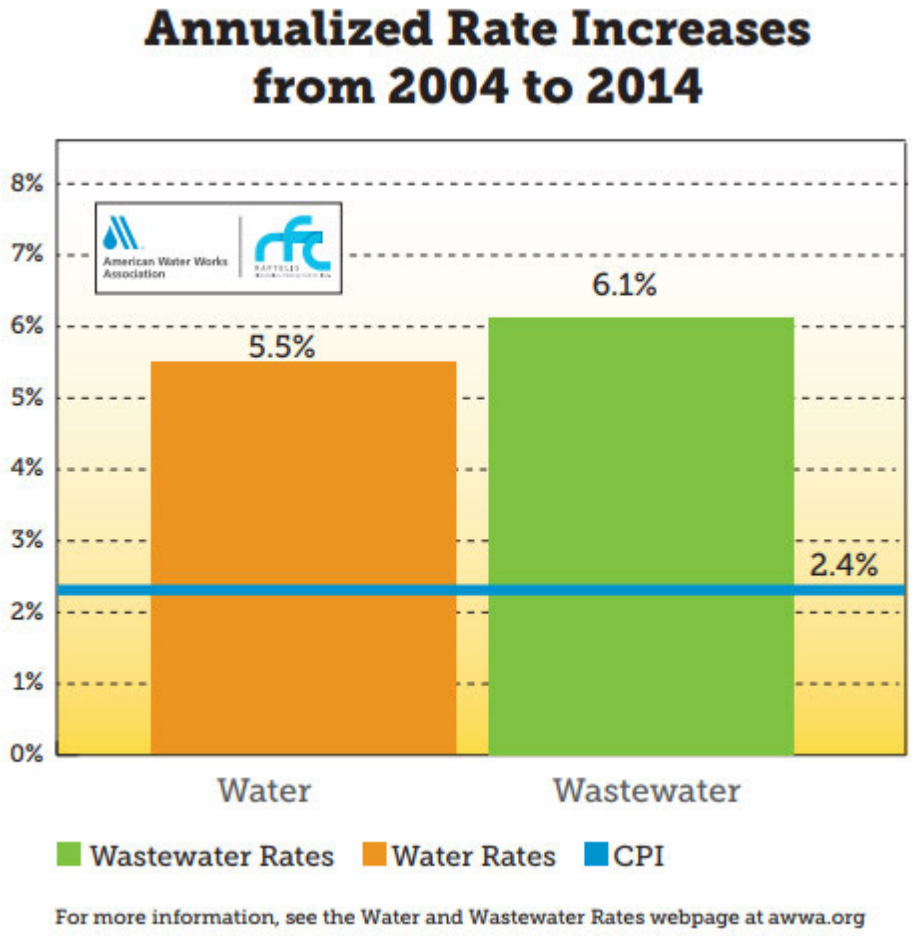
For all of the reasons explained above, universal access to safe water, wastewater, and stormwater services is not within reach absent a major increase in federal (and state) funding for water infrastructure projects. Nonetheless, even if federal and state infrastructure funding were to increase significantly, utility rate revenues will almost certainly remain a major source of new funding for water infrastructure investments. In order to sustainably generate the necessary local

[33] EPA, "Interpretive Guidance for Certain Amendments in the Water Resources Development Act to Titles I, II, V, and VI of the Federal Water Pollution Control Act" (Jan. 6, 2015), https://www.epa.gov/sites/production/files/2015-04/documents/water_resources_reform_and_development_act_guidance.pdf.

[34] *Guidelines for Assessing the Cost and Effectiveness of Efficiency, Reuse, and Recapture Projects for the Clean Water State Revolving Loan Fund*, Prepared for NRDC by Stratus Consulting (December 2015). Available at https://www.nrdc.org/sites/default/files/wat_16012504a.pdf.

rate revenues, policies and programs must be put in place to ensure that water and sewer service remains affordable for those least able to pay, notwithstanding overall increases in rates.

Water and wastewater utility rates already have been increasing at about twice the rate of inflation for approximately the last 15 years.[35] It is anticipated that rates will continue to increase as the bill for overdue investment in our water infrastructure comes due. At the same time, real growth in income has been relatively stagnant and income inequality has increased in recent decades. As a result, water and sewer costs are becoming increasingly expensive – as a share of household income – for many lower-income people.



(Graphic from American Water Works Association.[36])

There is a growing acceptance within the water industry that effective affordability policies must be adopted if urban water infrastructure is to be upgraded to protect water quality for people and the environment. And advocates for social, economic, and environmental justice have

[35] American Water Works Ass'n and Raftelis Financial Consultants, *2016 Water and Wastewater Rate Survey* (2017), p.89, available online at https://www.awwa.org/store/productdetail.aspx?productId=61841567.

[36] https://www.awwa.org/resources-tools/water-and-wastewater-utility-management/water-wastewater-rates.aspx

increasingly called attention to the harms of unaffordable water bills – including water shutoffs that can lead to loss of housing and even temporary loss of custody of children.

Although "low-income customer assistance programs" are fairly common for electric and gas utilities, they are much less common for water and sewer utilities. Additionally, while there is federal funding to support low-income assistance in the energy sector (the Low Income Home Energy Assistance Program, or LIHEAP), no analogous federal funding exists for the water sector, and no state has established either a statewide customer assistance program or state financial support for local programs.

In response to this challenge, some water and sewer utilities – though by far a minority – are adopting low-income customer assistance programs. In a review last year of 795 water and wastewater utilities,[37] EPA found that 29 percent of them offered at least one type of low-income assistance program. But 71 percent of the utilities surveyed offered no customer assistance program whatsoever, sidestepping responsibility to provide a basic safety net to ensure that the most vulnerable populations continue to receive an essential service. Moreover, of the customer assistance programs identified, about half offered only short-term relief for customers facing temporary financial hardship, or "flexible" payment terms to customers in arrears or customers wishing to adjust the timing of future bills. Other programs offered "bill discounts" or "lifeline rates," which provide a long-term reduction in low-income customers' bills, similar to programs that are commonplace among energy utilities. A small number provided targeted water efficiency assistance to help customers reduce bills by using less water; percentage-of-income payment plans that charge for water and sewer service on a sliding scale; means-tested utility bill discounts; targeted assistance for leak repair and other water efficiency retrofits; and various flexible payment terms or temporary assistance when low-income customers fall behind on bills or have short-term hardship.[38]

Additionally, since EPA published that report, Philadelphia's municipal water and sewer utility this year became the first in the nation to adopted another type of low-income assistance program, known as a "percentage-of-income payment plan," which charges for water and sewer service on a sliding scale based on a percentage of household income, for customers up to a certain percentage of the federal poverty line.

NRDC believes that more widespread use of customer assistance programs, as well as complementary approaches, are needed to maintain affordability for the most disadvantaged

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[37] EPA, Office of Wastewater Management, *Drinking Water and Wastewater Utility Customer Assistance Programs* (April 2016), available online at https://www.epa.gov/sites/production/files/2016-04/documents/dw-ww_utilities_cap_combined_508.pdf.

[38] Most of these types of programs were documented in a 2016 EPA survey of low-income water and sewer customer assistance programs nationwide. EPA, Office of Wastewater Management, *Drinking Water and Wastewater Utility Customer Assistance Programs* (April 2016), available online at https://www.epa.gov/sites/production/files/2016-04/documents/dw-ww_utilities_cap_combined_508.pdf. Additionally, the "percentage of income payment plan" approach, which is an established model in the energy utility sector, was adopted for the first time by a water utility in 2017, in Philadelphia. T. Nadolny, "For low-income residents, Philadelphia unveiling income-based water bills," *Philadelphia Inquirer* (June 19, 2017), http://www.philly.com/philly/news/politics/city/for-low-income-residents-philadelphia-unveiling-income-based-water-bills-20170620 html.

members of our communities. A combination of federal, state, and local actions is needed to reconcile the utilities' need to raise sufficient revenue with the need to maintain the affordability of essential levels of water and wastewater service.

To secure the infrastructure improvements needed to provide safe water, while maintaining affordability at the household level, NRDC recommends a suite of policies that work together:

1. *Prioritize disadvantaged communities in water infrastructure grant programs:* New federal (and state) water infrastructure investments should include a significant increase in grant funding, not only loans. Grant programs should emphasize aid to communities with low median household incomes, as well as communities with high income inequality and large numbers of low-income households. In addition, SRFs should help utilities with limited technical capacity more easily access existing financial assistance programs for capital projects.
2. *Create a federal low-income assistance program and spur creation of state and local assistance programs:* At the local, state, and federal levels, there is a need for increased use of (and dollar amounts dedicated to) customer assistance programs. NRDC strongly supports H.R. 2328, which would create a pilot Low Income Water and Sewer Assistance Program, similar to the existing Low Income Home and Energy Assistance Program, to help low-income households pay for essential water, wastewater, and stormwater services. However, such a program should be nationwide, not only a pilot, consistent with the long-standing recommendation of EPA's National Drinking Water Advisory Council's Affordability Work Group, comprised of representatives of utilities, cities, state water agencies, tribes, academia, and consumer, public health, and environmental organizations.[39] If Congress starts out with a pilot program, H.R. 2328 should be refined to include more details on the structure of the pilot and the substantive requirements for local assistance programs that would receive funding. The pilot should be designed to maximize the effectiveness of local programs that receive funding and facilitate reporting back to Congress with lessons learned, to inform follow-up legislation to create a nationwide program. The pilot should also promote experimentation with low-income assistance programs that help tenants of multi-family buildings, where rising water and sewer rates can put upward pressure on rents. In urban areas, a substantial portion of low-income households are renters, typically in multi-family buildings. In the water sector, unlike the energy sector, multi-family buildings typically are not sub-metered, and therefore the tenants are not direct customers of the utility. A recent report by the Water Research Foundation provides some potential strategies to address this challenge in local

[39] National Drinking Water Advisory Council, *Affordability Work Group, Recommendations of the National Drinking Water Advisory Council to the U.S. EPA on its National Small Systems Affordability Criteria* (July 2003), available online at https://www nclc.org/images/pdf/energy_utility_telecom/water/recommendations_july2003.pdf.

customer assistance programs.[40] NRDC would welcome the opportunity to discuss with the Committee and the sponsors ways to strengthen H.R. 2328.

3. *Promote more equitable rate structures:* Utilities should adopt rate structures that raise revenue with greater equity among users, such as seasonal or tiered rates for water, volume-based pricing for wastewater, and stormwater charges based on the burden a customer places on the public storm sewer system. Investor-owned drinking water utilities are subject to rate regulation by state public utility or public service commissions or boards, which can use their authority to drive the use of these equitable rate structures. The majority of drinking water utilities, and nearly all wastewater and stormwater utilities, are not subject to rate regulation by the states. Federal and state policies should promote and provide incentives to adopt these equitable rate structures, which allow communities to generate revenues needed for water infrastructure investment without unduly burdening low-income households.
4. *Improve EPA's approach to "financial capability assessments" under the Clean Water Act:* EPA and states, in their roles as Clean Water Act permitting and enforcement authorities, should insist that municipal CWA permittees take advantage of opportunities to improve affordability for low-income households before EPA and states will consider cost "burdens" on low-income residents as grounds for extending compliance schedules.
5. *Increase utilities' use of asset management, green infrastructure, and water efficiency strategies that reduce costs for all customers:* Sound asset management practices hold costs down for everyone in the long run, since preventive maintenance/repair on a regular cycle is far cheaper than reactive maintenance/repair when something breaks or greatly exceeds its useful life. Likewise, maximizing the use of cost-effective green infrastructure and water efficiency strategies, rather than relying exclusively on costly "gray" infrastructure investments to meet water supply and water quality needs, helps to mitigate costs for all customers. In addition to incentivizing these approaches with funding, EPA and states should make better use of Clean Water Act permits, enforcement orders, and/or regulations to promote or require these strategies.

Congress Should Reinstate the Federal Flood Risk Management Standard to Protect the Value of Federal Water Infrastructure Investments by Reducing the Risk of Severe Damage in Future Flood Disasters

Congress must ensure funds appropriated for water and sewer systems are spent responsibly, and that includes ensuring such systems are more resilient to flooding. Among the various impacts of climate change discussed above, an increasing risk of flooding is extremely problematic for water and sewage treatment plants, which are often are built in low-lying areas, close to a water supply source or a receiving water where treated effluent is discharged. Between 1998 and 2014, the Federal Emergency Management Agency, alone, spent $10.3 billion to repair flood-damaged public utilities (including but not limited to water and sewer utilities).[41] Within just the last

[40] Water Research Foundation, *Customer Assistance Programs for Multi-Family Residential and Other Hard-to-Reach Customers* (Aug. 2017), http://www.waterrf.org/Pages/Projects.aspx?PID=4557.
[41] NRDC, "The Need for Flood Protection Standards" (Nov. 30, 2015), https://www.nrdc.org/resources/need-flood-protection-standards.

month, Hurricanes Harvey and Irma overwhelmed many drinking water and wastewater treatment systems in Florida and Texas, illustrating the sorts of damage that climate change continues to make increasingly likely. After Irma, millions of gallons of treated and untreated wastewater poured into Florida's waterways, streets, and neighborhoods as sewage treatment plants were submerged. Miami's South District Wastewater Treatment Plant reported that 6 million gallons of sewage spilled into Biscayne bay.[42] Hurricane Harvey impacted multiple drinking water systems, resulting in 166 declaring boil-water notices and 50 shutting down.[43] In Beaumont, Texas, over 118,000 people were without safe drinking water for several days after floodwaters knocked out the city's water supply.[44]

While Hurricanes Harvey and Irma were extreme events, climate change makes such events more likely, as rising sea levels allow storm surge to travel farther inland and a warmer atmosphere increases the likelihood for intense rain storms. Investing today to protect against these threats can save billions of dollars in avoided future damages.

The Federal Flood Risk Management Standard, which President Trump revoked in August,[45] was established to ensure federal agencies account for current and future flood risk when using taxpayer dollars to fund the building or rebuilding of infrastructure in floodplains.[46] The flood protection standard required federally-funded infrastructure, like drinking water and wastewater treatment facilities, to be built with a higher margin of safety against flood disasters.

The standard provided flexible options for federal agencies to account for future flood risk when funding construction projects, for example, the option to protect critical infrastructure to the level of a 500-year flood event, which has .2% chance of occurring in any given year.[47] While such events may sound rare, Houston experienced three flood events of this magnitude in the last three years.[48] The flexibility of the federal flood protection standard would have allowed taxpayer-funded infrastructure to be constructed or rebuilt in a manner to account for the uncertainty of these major flood events occurring. As extreme flood events happen more frequently, this flexibility was important for minimizing the associated damage costs.

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[42] J. Dloughy and A. Natter, "Cities Swimming in Raw Sewage as Hurricanes Overwhelm Systems," *Bloomberg* (Sept. 13, 2017), https://www.bloomberg.com/news/articles/2017-09-13/cities-swimming-in-raw-sewage-as-hurricanes-overwhelm-systems.

[43] EPA, "Status of Water Systems in Areas Affected by Harvey" (Sept. 3, 2017), https://www.epa.gov/newsreleases/status-water-systems-areas-affected-harvey.

[44] Debbie Elliot, "With Flooded Streets And No Tap Water, Unknowns Face Beaumont, Texas, Residents," *National Public Radio – Morning Edition* (Sept. 1, 2017), http://www npr.org/2017/09/01/547774586/beaumont-texas-is-without-running-water; City of Beaumont, "Public Information: Boil Water Notice to Rescind," (Sept. 9, 2017), http://beaumonttexas.gov/public-information-boil-water-notice-rescind/.

[45] Trump Executive Order revoking flood protection standards: https://www.whitehouse.gov/the-press-office/2017/08/15/presidential-executive-order-establishing-discipline-and-accountability.

[46] Obama Executive Order 13690 establishing flood protection standards: https://obamawhitehouse.archives.gov/the-press-office/2015/01/30/executive-order-establishing-federal-flood-risk-management-standard-and-

[47] U.S. Geological Survey, "The 100-Year Flood – It's All About Chance," https://water.usgs.gov/edu/100yearflood-basic html.

[48] C. Ingraham, "Hurricane Harvey is the third '500-year' flood in Houston in 3 years. How is that possible?" *Washington Post* (Aug. 29, 2017), https://www.washingtonpost.com/news/wonk/wp/2017/08/29/houston-is-experiencing-its-third-500-year-flood-in-3-years-how-is-that-possible/?utm_term=.314bcf2f39f0.

If left in place, and fully implemented,[49] the standard would have helped reduce the vulnerability our nation's water infrastructure being knocked off line during future flood disasters—protecting human health, lowering disaster costs, and saving taxpayer dollars. The federal flood protection standard, created from the lessons learned rebuilding in the Northeast after Superstorm Sandy, would have ensured infrastructure damaged or destroyed by flooding was rebuilt safer—not to the status quo. Unfortunately, President Trump's revoking of the standard means drinking and wastewater facilities built or rebuilt with American tax dollars will remain susceptible to major flood events.

Earlier this month, a bill was introduced in the Senate, the Federal Flood Management Act of 2017 (S. 1798), to codify the federal flood protection standards revoked by President Trump. This would require federal agencies to better account for future flood risk when using taxpayer dollars to fund construction projects and ensure that federally-funded infrastructure projects—including water infrastructure—are built to withstand more extreme flooding disasters.

Congress should enact this legislation to demonstrate its commitment to protecting people and property from major flood events and responsibly investing American tax dollars.

Congress Should Support Tools for Effective Prioritization of Pipe Replacement and Leakage Control

When considering new strategies to effectively support additional investment in water, wastewater, and stormwater systems throughout the country, the committee should take note of several complementary proposals in Title 3 of H.R. 3275 that would encourage additional investment and support informed choices. NRDC supports each of the following provisions:

- Sec. 3001. Water leak control technology study. This provision authorizes a three-year study and report on advanced technologies and practices for managing pressure and identifying water loss and leaks in aging water infrastructure, along with recommendations for economically feasible criteria for effective pressure management and water loss control by public water systems.

- Sec. 3002. Water main break data clearinghouse. This provision directs EPA to establish a national data clearinghouse for information on water main breaks. Utilities would submit information on water main breaks and repairs, much of which is already on hand, to be compiled into a nationwide database that would support research and analysis of pipe materials, installation practices, and other spatial and temporal factors that contribute to water main breaks, and the costs incurred by utilities to address them. Over time, the database will highlight important trends in main break occurrence and remediation, and lead to improved strategies for the stewardship of our buried infrastructure.

[49] Multiple agencies, such as FEMA, HUD, and EPA, were in the process of incorporating the standard into their regulations and operating procedures.

- Sec. 3003. Sustainable Water Loss Control Program. This section would authorize a targeted program of technical assistance for water systems serving disadvantaged communities to undertake a standardized water loss audit and establish a later loss control program. Water losses, in the form of real losses due to leakage from the distribution system, serve to increase operating expenses, while apparent losses stemming from measurement and billing errors reduce system revenues and undermine the financial viability of the water system if unchecked. These burdens are especially problematic for systems serving disadvantaged communities with limited local financial capacity. Technical assistance, informed by standardized auditing, can help such systems identify cost-effective loss reduction strategies.

Congress Should Preserve and Strengthen Source Water Protections, Including the Clean Water Rule, to Protect Health and Reduce Treatment Costs

We need a greater focus on source water protection. Ben Franklin's aphorism that "a penny saved is a penny earned" was never so true as it is in this case. Uncontrolled or poorly-controlled source water pollution from polluters remains a serious problem. Unregulated or poorly-controlled sources that can pose substantial pollution threats include agricultural runoff and factory farm pollution, groundwater and surface water pollution from oil and gas exploration and development, coal and mineral mining, certain industrial sources, and spills and leaks from above-ground hazardous substance tanks. State authorities and EPA could substantially reduce the public health and environmental threats from such polluters, and could reduce the costs of drinking water treatment, by better controlling these pollution sources.

The experience of Des Moines Water Works, which serves 500,000 Iowans with their tap water, is illustrative of how state or EPA intervention to ensure that source water is protected from upstream agricultural pollution could help to keep rates more affordable. As a recent statement from Des Moines Water Works notes:

> Des Moines Water Works meets or exceeds regulatory requirements for drinking water established by the United States Environmental Protection Agency…. However, the costs and risks in doing so are increasingly high as Iowa's surface waters demonstrate dangers levels of pollutants.
>
> The increase in river nitrate levels is attributable to upstream agricultural land uses, with the largest contribution made by application of fertilizer to row crops, intensified by unregulated discharge of nitrate into the rivers through artificial subsurface drainage systems.
>
> "Iowa's political leadership, with influence from industrial agriculture and commodity groups, continue to deny Iowa's water quality crisis," said Bill Stowe, CEO and General Manager, Des Moines Water Works. "Defending the status quo, avoiding regulation of any form, and offering the illusion of progress and collaboration, places the public health of our water consumers at the mercy of upstream agriculture and continues to cost our customers millions of dollars."

> Des Moines Water Works seeks relief against upstream polluters and agricultural accountability for passing production costs downstream and endangering drinking water sources. In addition, Des Moines Water Works is actively planning for capital investments of $80 million, a cost funded by ratepayers, for new denitrification technology in order to remove nitrate and continue to provide safe drinking water to a growing central Iowa.[50]

While Des Moines may be unusual for its candor, its problems with unregulated or poorly-regulated upstream pollution are hardly so. Problems ranging from routine spills of industrial pollutants on the Ohio River that have led Cincinnati and Louisville to install advanced water treatment facilities at significant expense to ratepayers, are also illustrative.

Similarly, EPA has failed to effectively regulate runoff of the widely-used herbicide atrazine which has caused drinking water systems across the country to find the chemical in their water, often at levels in excess of EPA's standard during peak runoff season.[51] In light of EPA's and states' failure to control this problem, a large group of water suppliers sued Syngenta, the manufacturer of atrazine, because they were routinely being required to spend significant amounts to remove the chemical from their tap water.[52] They reportedly settled the case for $105 million dollars, and according to lawyers involved, as many as 3,000 water utilities may be eligible to recoup at least some of their treatment costs.[53]

Another example was the spill/leak of toxic chemicals from a huge above-ground tank at Freedom Industries that contaminated the drinking water of 300,000 people in Charleston, West Virginia in January 2014.[54] EPA had been charged in the 1972 Clean Water Act with issuing rules to prevent spills and leaks from above-ground tanks storing hazardous substances, but has still not done so. Citizen organizations and NRDC recently entered into a consent decree with EPA to have the agency finally issue those long-overdue rules,[55] though the list of hazardous substances required to be covered by such rules still has not been updated to include the chemicals that caused the Charleston disaster.

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[50] Des Moines Water Works, Des Moines Water Works' 2015 Denitrification Record, January 4, 2016, available online at http://www.dmww.com/about-us/news-releases/des-moines-water-works-2015-denitrification-record.aspx.

[51] See , Mae Wu, Mayra Quirindongo, Jennifer Sass, and Andrew Wetzler, Poisoning the Well: How the EPA is Ignoring Atrazine Contamination in Surface and Drinking Water in the Central United States, Natural Resources Defense Council, 2010, available online at https://www nrdc.org/sites/default/files/atrazine.pdf.

[52] Ian Berry, "Syngenta Settles Weedkiller Lawsuit," May 25, 2012, *Wall Street Journal*, available online at http://www.wsj.com/articles/SB10001424052702304840904577426172221346482.

[53] *Id*.

[54] *See, e.g.*, Testimony of Erik D. Olson, NRDC, Before the Subcommittee on Water and Wildlife of the U.S. Senate Committee on Environment and Public Works, at the hearing entitled Examination of the Safety and Security of Drinking Water Supplies Following the Central West Virginia Drinking Water Crisis, February 4, 2014, available online at http://www.epw.senate.gov/public/index.cfm/hearings?ID=8CCDAFF7-CDC6-8A6F-CA6E-A7017498083C.

[55] NRDC et al., After More Than 40 Years, EPA Will Act on Hazardous Industrial Spills, available online at https://www nrdc.org/media/2016/160217-0.

Many other municipalities have been forced to quietly install treatment to remove or protect against potential contamination from other contaminants from upstream polluters, without recourse against the polluters. A far better approach would be for Congress, EPA and states to crack down on uncontrolled or poorly-regulated pollution sources such as agricultural runoff and factory farms, mining, and oil and gas activities, to save ratepayers the expense of cleaning up after the polluters.

The "Clean Water Rule," adopted by EPA and Army Corps of Engineers in May 2015, is essential to protect water sources that feed drinking water supplies for 117 million Americans and wetlands that filter contaminants and recharge groundwater supplies, while also providing important flood protection and wildlife habitat. The rule clarified which waters are protected under the Clean Water Act—about 60 percent of the nation's bodies of water. If these waters are not protected against pollution by the Clean Water Act, downstream drinking water systems will have a very heavy burden of cleaning up the water to remove the contaminants, costs that—as in the case of Des Moines and so many other utilities—will be borne by ratepayers rather than the polluters.

Unfortunately, the Trump administration has attacked the commonsense protections in the Clean Water Rule by proposing to repeal it. Doing so would throw implementation of the Clean Water Act back into confusion, when what we need are strong and certain pollution controls for the nation's waters. And the House recently voted to make matters worse. In recently-passed appropriations bills, the House included a rider that authorizes the Trump administration to repeal the Clean Water Rule without any regard to any law that would otherwise apply to such action. If that radical rider were to become law, the government could ignore public input on the repeal, take back the Rule without any reason or support for doing so, or undo it for otherwise wholly unlawful reasons. NRDC urges the rejection of the Trump administration's scheme to repeal these protections and the House's cynical attempt to shield that repeal from public input and independent judicial scrutiny.

We Cannot "Streamline" Our Way Out of a Lack of Infrastructure Funding

An emphasis on "streamlining" too often seems to be a diversionary tactic from the real problem of our failing infrastructure. Our wastewater and drinking water systems – to say nothing of transportation and other infrastructure – have been systematically underfunded for decades. Yet, there is a persistent but false narrative that the National Environmental Policy Act (NEPA) is the primary cause of project delay. This is simply not true. Repeated investigations by the Congressional Research Service underscore both that factors other than federal NEPA reviews are the primary cause of project delays, and that better resource allocation at a federal agency can expedite decision making.

A Congressional Research Service report in 2012 found that:

> The time it takes to complete the NEPA process is often the focus of debate over project delays attributable to the overall environmental review stage. However, the majority of FHWA-approved projects required limited documentation or analyses under NEPA. Further, when environmental requirements have caused

> project delays, requirements established under laws other than NEPA have generally been the source. This calls into question the degree to which the NEPA compliance process is a significant source of delay in completing either the environmental review process or overall project delivery. Causes of delay that have been identified are more often tied to local/state and project-specific factors, primarily local/state agency priorities, project funding levels, local opposition to a project, project complexity, or late changes in project scope.[56]

Rather than addressing the real issue of funding, some choose to complain about requirements for federal permits and environmental reviews. We cannot streamline our way out of our infrastructure problem. Countries all over the world — including those with better infrastructure than our own — have adopted statutes based on our NEPA statute; bullet trains, modern subways, efficient airports, and water systems around the world have been built subject to NEPA-like requirements. What these countries have that the United States currently lacks is a national commitment to adequately funding infrastructure to compete in the 21st century.

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Thank you for the opportunity to testify today. NRDC looks forward to working with the Subcommittee on bold and effective solutions to our nation's water infrastructure challenges.

[56] Congressional Research Service, *The Role of the Environmental Review Process in Federally Funded Highway Projects: Background and Issues for Congress*", CRS 7-5700, R42479 (April 11, 2012).