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NATURAL RESOURCES DEFENSE COUNCIL

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before the U.S. Senate Subcommittee on Transportation Safety, Infrastructure Security, and Water Quality

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Good morning, Mr. Chairman, and members of the Subcommittee. I am Nancy Stoner, Director of the Clean Water Project at the Natural Resources Defense Council (NRDC). Thank you for holding this hearing today on meeting America's wastewater infrastructure needs. This is a tremendous opportunity for the Congress to step up federal investment in wastewater infrastructure and to spend smarter so that the U.S. will ensure that there is clean, safe, usable water for the next generation.

The federal government's investment in wastewater treatment and water resource protection over the thirty-five years since the Clean Water Act was passed in 1972 has brought tremendous progress in cleaning up our waterways. Yet, the issue of whether there is a federal role in wastewater infrastructure investment is a recurring question. I believe that issue was resolved appropriately by Congress in 1972. Water pollution knows no political bounds. Failure to protect water resources in one state pollutes downsteam surface and groundwater resources in neighboring states. That's why Congress passed the Clean Water Act in the first place and why the federal role is so important. For example, for the past 17 years, NRDC has prepared a report analyzing beachwater quality in coastal states across the U.S., called *Testing the Waters*. In 2006, there were more than 25,000 beach closings and advisories in the U.S., and the largest

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known causes were contaminated stormwater and sewage, two of the pollution sources the remediation of which is eligible for funding by the Clean Water SRF.[1] It would be unfair for coastal communities to have to shoulder the cost of cleaning upstream sources of beachwater contamination because there is no federal funding to assist upstream communities to make investments in controlling those sources.

The Clean Water SRF has always been and continues to be a good investment. Projects funded by the Clean Water SRF provide water quality and community benefits, such as reduced discharges of raw sewage into rivers and lakes, less waterborne illness, enhanced wildlife habitat biodiversity, and more plentiful and safer drinking water sources.[2] It also protects businesses that are dependent upon clean water, such as tourism, fish and shellfish harvesting, the beverage industry, and high tech manufacturing. SRF funded projects create more than 400,000 jobs each year throughout the nation while providing other economic benefits for local communities.[3] Very little current Clean Water SRF funding goes to green infrastructure, which applies natural systems or designed or engineered systems that use soil and vegetation to mimic natural processes to protect and enhance environmental quality and provide utility services. However, where it is being employed, green infrastructure creates jobs for architects, designers, engineers, construction workers, maintenance workers, and a variety of small businesses engaged in designing and building green roofs, rain gardens, tree boxes, and

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[1] NRDC, *Testing the Waters- A Guide to Water Quality at Vacation Beaches*, p. 1 (August 2007), available at http://www.nrdc.org/water/oceans/ttw/ttw2007.pdf.

[2] http://www.epa.gov/owm/cwfinance/cwsrf/factsheets.htm; U.S. EPA, *Financing America's Clean Water Since 1987: A Report of Progress and Innovation,* EPA-832-R-00-011, pp. 9-10 (May 2001), available at http://www.epa.gov/ownitnet/cwfinance/cwsrf/progress.pdf.

[3] AFSCME, et al., *All Dried Up: How Clean Water is Threatened by Budget Cuts*, p. 1 (2004). Available at http://www.nrdc.org/media/docs/040915.pdf.

other types of green infrastructure.[4] And both the clean waterways themselves and the green infrastructure that keeps them clean increase property values, revitalize blighted neighborhoods, enhance street life and community aesthetics, and provide free recreation.[5] Because it is matched at the state and local levels, the Clean Water SRF leverages non-federal investment at a rate of 2.23 times the federal dollar.[6]

But it is clear that the level of U.S. investment in clean water is inadequate. There is an upward trend for beach closings, red tides, dead zones, droughts, flooding, coral reef damage, nutrient pollution, and sewage pollution.[7] At our current rate of investment, U.S. EPA has projected that sewage pollution will be as high in 2025 as it was in 1968 – before the passage of the Clean Water Act – that is, when Lake Erie was declared dead and the Cuyahoga River was on fire.[8] In addition, global warming is anticipated to have adverse effects on available freshwater resources. For example, NRDC's recent report,

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[4] http://www.treepeople.org/trees/default.htm (projects creation of 50,000 new jobs from green infrastructure initiative)

[5] NRDC, *Rooftops to Rivers: Green Strategies for Controlling Stormwater and Combined Sewer Overflows (June 2006).*

[6] U.S. EPA, *Clean Water State Revolving Fund Programs- 2006 Annual Report*, p.18, available at www.epa.gov/owm/cwfinance/cwsrf/2006-annual-report.pdf.

[7] NRDC, *Testing the Waters*, pp. 1-2 (reporting annual percentage increase in beach closing and advisory days); Woods Hole Oceanographic Institute, *Harmful Algal Research and Response: A National Environmental Science Strategy* 2005-2015, available at www.esa.org/HARRNESS/harrnessReport10032005.pdf ("Whereas 30 years ago the US harmful algal bloom problem was scattered and sporadic, today virtually every state is threatened by harmful or toxic algal species."); Raloff, Dead Waters, Science News Online June 5, 2004 (the number of major dead zones has been roughly doubling every decade since the 1960s); NRDC, *In Hot Water: Water Management Strategies to Weather the Effects of Global Warming* pp. 4-16, (July 2007), available at www.nrdc.org/globalWarming/hotwater/hotwater.pdf (experts predict that the frequency of damaging events such as droughts and flooding will increase in many areas due to climate change); *An Ocean Blueprint for the 21st Century,* Final Report of the U.S. Commission on Ocean Policy, p.22 (Sept. 2004) available at http://www.oceancommission.gov/documents (The world's coral reefs are increasingly showing signs of serious decline, with pristine reefs becoming rare and up to one-third of the world's reefs severely damaged according to some estimates); NOAA, *National Estuarine Eutrophication Assessment: Effects of Nutrient Enrichment in the Nation's Estuaries,* pp. vi-vii (Sept. 1999), available at http://ian.umces.edu/neea/pdfs/eutro_report.pdf (The severity and extent of nutrient pollution are expected to worsen in more than half of the nation's estuaries and coastal waters by 2020).

[8] U.S. EPA, *The Clean Water and Drinking Water Infrastructure Gap Analysis*, EPA-816-R-02-020 (Sept. 2002).

In Hot Water, projects that global warming will decrease snowpack in the West, reduce water supplies, increase the magnitude and frequency of floods and droughts, and degrade aquatic habitat by reducing stream flows and increasing the temperature of waterways.[9]

Even while the problems are growing, federal contributions to the SRF are shrinking, the funding gap is almost $20 billion annually, and both public and private investment in wastewater technology research and development that could save money in the long run is less than half of what it was in the 1970s.[10] This year, after a promising start by restoring SRF funding to more than $1 billion for FY07, the Senate appears poised to adopt a funding cut of more than $200 million from last year's enacted level. We request that the Senate adopt the House funding level of $1.125 billion.

The picture is bleak. The sewer systems are getting older, more antiquated, more likely to fail,[11] and they have more work to do, due to increasing population, land development that occurs at a rate more than twice the rate of population growth, and, as I mentioned, the projected impacts of global warming on water resources.

NRDC's key recommendations are that you address this situation by (1) substantially increasing funding over at least the next 10 years, (2) expand the eligibilities and improve the targeting of water funding so that it can be used to address a broad range of threats to U.S. water resources and so it achieves more per dollar spent; and (3) accompany the SRF with long term investment in research and development in new

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[9] *In Hot Water,* pp. 4-16.
[10] U.S. EPA, A Retrospective Assessments of the Costs of the Clean Water Act, 1972 to 1997 (Oct. 2000).
[11] U.S. EPA, *The Clean Water and Drinking Water Infrastructure Gap Analysis*, EPA-816-R-02-020 (Sept. 2002) (projects that 47% of sewer pipes will in poor, very poor, or life elapsed condition by 2020, up from 10% in 1980 and 23% in 2000).

technologies that will allow the U.S. to find even smarter, cheaper ways to protect and enhance our water resources in the future.

Mind the Gap

The funding gap between water infrastructure needs and available resources is very large and continues to grow. Yet, the current Clean Water SRF is grossly insufficient to meet our nation's water quality needs, which include repairing and replacing aging sewer plants and collection systems, controlling contaminated stormwater, minimizing polluted runoff, and ensuring adequate and clean flows in our nation's rivers, lakes, and estuaries. We need to authorize substantially more SRF funds to close the gap between our water needs and available federal funding. While there are differing estimates of the amount of additional funding needed,[12] the need for greater investment in clean water infrastructure is clear and undisputed. Any reauthorization of the Clean Water SRF must substantially raise SRF funding levels for those programs, and EPA's own estimate of funding gaps should be a starting point. We should begin to plan now to meet future needs by authorizing funds to address them for at least the next ten years.

Fund the Smartest, Most Beneficial Projects

The growing funding gap suggests not just the need for more funding, but also the need to begin to spend that funding more wisely to obtain the greatest amount of environmental benefit per taxpayer dollar invested in water infrastructure. There are several components of this: (1) clarifying that all types of municipal water resource protection needs are eligible for funding, not just construction of hard infrastructure pipes and treatment works, (2) funding the highest priority projects first, (3) providing

[12] Estimates collected at http://waterislife.net/Documents/FactSheet.pdf.

substantially increased funding for green infrastructure, and (4) ending subsidies for sprawl development.

Eligibility and Priority

U.S. EPA has interpreted the Clean Water Act to allow the SRF to be used to fund a variety of types of water resource protection projects, including municipal drinking water source protection and municipal stormwater controls.[13] NRDC urges you to clarify these eligibilities and to encourage the use of integrated water resource management, watershed management, and other integrated and multimedia tools to choose priorities for funding based on expected environmental results. Greater transparency and involvement of the public in the priority setting process would also increase the likelihood that the most environmentally beneficial projects would be selected for funding.

Expand Funding for Green Infrastructure Projects

The U.S. should not merely rebuild our wastewater and stormwater systems using the hard infrastructure technologies of the past. We must become smarter about stretching our federal investment in water infrastructure by spending more on "green infrastructure" – non-point and non-structural solutions that are more efficient and more environmentally effective than traditional concrete and pipe solutions. Green infrastructure includes a variety of emerging technologies that can be used to restore urban and suburban waterways. Green infrastructure approaches include both engineered approaches that mimic natural functions, such as green roofs and rain gardens, and protection of natural areas (wetlands, stream buffers, forests) to provide water capture and purification functions naturally. They are often accompanied by rain barrels, cisterns, and other approaches that "harvest stormwater" for re-use. Green infrastructure

[13] U.S. EPA, SRF fact sheets, available at http://www.epa.gov/owm/cwfinance/cwsrf/factsheets.htm.

benefits include improved water quality, expanded wildlife habitat, enhanced drinking water supplies, protected open space and parks, energy savings, smog reduction, decreased flooding, improved aesthetics, and higher property values. Green infrastructure often saves taxpayers money as well by not only reducing sewage and stormwater pollution, but also by reducing the amount of water that needs to be conveyed to centralized treatment facilities, thereby reducing the cost of operating those facilities. Use of green infrastructure approaches in addition to modernization of aging, decaying treatment plants, collection systems, and distribution systems can forestall the need for even more costly approaches and investments in the future.

Earlier this year, 42 members of the Senate recognized that green infrastructure can be more cost effective than traditional pipe and mortar solutions to stormwater management.[14] In April 2007, NRDC, U.S. EPA, the Low Impact Development Center, the National Association of Clean Water Agencies, and the Association of State and Interstate Water Pollution Control Administrators pledged to work together to promote use of green infrastructure in stormwater and sewer overflow control programs.[15] NRDC's 2006 report, *Rooftops to Rivers*, reported on the green infrastructure strategies already employed by forward-thinking communities across the U.S. that are already stretching wastewater infrastructure investments to achieve more by focusing on multi-benefit approaches, by leveraging private as well as public investment, and by weaving green infrastructure controls into a broad range of ongoing municipal activities, such as

[14] Letter from 42 Senators to the Honorable Dianne Feinstein (March 30, 2007).
[15] Green Infrastructure Statement of Intent (April 17, 2007), available at http://www.epa.gov/npdes/pubs/gi_intentstatement.pdf.

repair and rehabilitation of roads. Green infrastructure approaches can achieve cleaner bodies of water, a greener environment, and better quality of life.

Fund Existing Needs, Not Sprawl

Better targeting of SRF funds not only means funding new types of projects that provide enhanced results, it also means discontinuing funding for projects that cause environmental degradation. Despite the fact that subsidizing new sewer lines and excess capacity often fuels development that makes pollution worse in the long run, a substantial amount of SRF funding (and earmarks) goes to funding these projects every year. Development significantly increases runoff volume and velocity, decreases water quality, and reduces groundwater discharge. The more pavement, the more pollution – that is extremely well documented by now – included in multiple reports by U.S. EPA.[16] Yet, the SRF still funds new collection systems, new treatment plants, and excess capacity – all of which can fuel greenfield development. According to EPA's 2006 report, about 19% of the SRF was used to fund "new sewers."[17] Given its adverse water quality impacts, development must pay for itself – it should not be subsidized by the American taxpayer – and should particularly not be paid for out of the very limited federal funding available to protect water resources.

Substantially Increase Funding for Research and Development

While green infrastructure approaches already have demonstrated performance results in some cities, most of the data is site specific and needs to be scaled up in order

[16] U.S. EPA, *Using Smart Growth Techniques as Stormwater Best Management Practices* (Dec. 2005), U.S. EPA, *Growing Toward More Efficient Water Use: Linking Development, Infrastructure, and Drinking Water Policies* (Jan. 2006); U.S. EPA, *Protecting Water Resources With Higher Density Development* (Jan. 2006), available at http://www.epa.gov/smartgrowth.;U.S.

[17] U.S. EPA, *Clean Water State Revolving Fund Programs – 2006 Annual Report,* p. 16, available at http://www.epa.gov/owm/cwfinance/cwsrf/2006-annual-report.pdf.

to be used at the watershed or subwatershed scale to achieve regulatory objectives, such as combined sewer overflow reduction, total maximum daily load implementation, streambank stabilization, drinking water source protection, and municipal stormwater compliance. Clarifying that green infrastructure projects are eligible for SRF funding is not sufficient. NRDC supports creation of a dedicated fund for wastewater infrastructure research needs, including those for green infrastructure technology development and transfer. For green infrastructure, those needs include work to further develop green infrastructure models and integrate them into existing watershed models, sewer system models, and even global warming and air quality models. We also need to help those communities that are pioneering green infrastructure approaches to perform multi-media monitoring of the results that can then be compared with model projections and with results obtained from hard infrastructure investments. This is the kind of research expense that we cannot expect cities to fund solely on their own.

Broader research and development funding is required as well. Public and private investment in research and development in wastewater technologies has shrunk significantly since the 1970s. The U.S. is falling behind in terms of its ability to compete with those overseas for developing and marketing innovative wastewater treatment technologies. The American taxpayer is also denied the environmental and financial benefits of employing improved technologies. Instead of developing and implementing new approaches that will ensure improved protection of resources for the future, we continue to argue about whether our waterways need to be safe for swimming, drinking, and aquatic habitat. Instead, we need to focus on developing the approaches that will ensure their safety, and we need to begin to look at those questions in a holistic way

through integrated water resource planning. I look forward to working with you to ensure that Senate legislation not only improves funding for existing wastewater needs, but also puts in place funding for long range investments so that Americans will have enough clean, safe water for decades to come.

Thank you for providing me with the opportunity to testify today. I look forward to working with you to address these issues in your reauthorization bill. I would be happy to answer any questions you may have.