

**Testimony before the
Committee on Transportation and Infrastructure
U.S. House of Representatives**

Investing in Infrastructure: The Road to Recovery

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On behalf of American Rivers' 65,000 members and supporters, thank you for holding the hearing *Investing in Infrastructure: The Road to Recovery*. American Rivers applauds the Committee for spotlighting the need for more federal infrastructure investment to stimulate the economy and meet clean water needs and requests that this written testimony be included in the official hearing record.

This moment in time offers a unique opportunity for Congress to put forth a new vision for water. In much the same way that we need to invest in energy efficiency and low-carbon technologies to fuel our economy in the 21st century, we need a very different model of water infrastructure investment. We will make a terrible mistake if we simply rebuild water systems that date from the 19th and 20th centuries. This will lock in investments for decades that are too costly, too inflexible, and may cause more harm than benefit.

Instead, we urge the Committee, and Congress as a whole, to direct more funding to solutions that will work best and most cost-effectively in a world dominated by climate change and new economic challenges. Our specific recommendations are listed below.

U.S. Water Infrastructure is Crumbling...and So is Funding

As the Committee is well aware, America's water infrastructure is at a crisis point. Water and wastewater systems now receive the lowest grade, a D-, of all infrastructure rated by the American Society of Civil Engineers.¹ Aging sewers and treatment plants, growing population, and sprawling development patterns strain our existing clean water systems. At the same time we continue to lose crucial elements of our natural clean water system – headwaters streams, wetlands, forests, and natural floodplains. Climate change is already making the problem worse, and scientists predict more frequent and severe droughts and floods as the planet warms.

Since 2002, federal clean water funding has declined significantly, leaving states and local governments to fill the gap. Between 2004 and 2005, states and municipalities spent \$36 billion on sewers and another \$46 billion on drinking water. In 2006, local governments made 96% of all sewage treatment investments.²

The financial crisis and economic downturn have now virtually shut off all local investment. U.S. EPA has stated that water quality declines are reversing decades of improvement, and in less than a decade, without substantial increases in historic water infrastructure funding, pollution will be similar to 1970 levels.³

¹ American Society of Civil Engineers, Report Card on America's Infrastructure, accessed online Oct. 25, 2008, <http://www.asce.org/reportcard/2005/index2005.cfm>

² U.S. Conference of Mayors, Mayors Water Council, *Local Government Investment In Municipal Water And Sewer Infrastructure: Adding Value To The National Economy*, at 1, August 14, 2008 (accessed October 25, 2008, <http://www.usmayors.org/pressreleases/uploads/LocalGovtInvInMunicipalWaterandSewerInfrastructure.pdf>)

³ U.S. EPA, *The Clean Water and Drinking Water Infrastructure Gap Analysis*, at 8, September, 2002 (<http://www.epa.gov/owm/gapreport.pdf>)

We need a national commitment to water infrastructure investment, but we need to invest more wisely.

21st Century Water Agenda

We need a new agenda for water in this country that does not rely upon the outmoded approaches of the past two centuries. Climate change is changing traditional precipitation patterns and causing wide volatility. In a recent issue of *Science* magazine, hydrologists and water engineers commented that a central tenet of civil engineering called “stationarity” – the notion that water systems can be designed and managed for a relatively stable range of conditions – is no longer true.⁴ As climate change reduces snow packs and increases droughts, reservoirs as large as Lake Mead, the drinking water source for 30 million Americans, are drying up.⁵ Building more dams, as Atlanta and many other metro areas are proposing, won’t work unless it rains (in the right place), and won’t address unsustainable water use. Bigger storms are already causing more sewer overflows and flooding, and it is not physically or fiscally possible to enlarge underground stormwater tunnels enough to hold it all. Experts predict that these extreme hydrologic swings will only increase with global warming.⁶

We must invest in new solutions.

American Rivers believes that future federal water investments should be governed by three key goals:

1. Nature works best and cheapest.
2. Don’t waste money.
3. Integrate “green” and traditional solutions for greater safety and security.

First, we must invest more substantial portions of our water dollars in natural infrastructure. This means viewing small streams, wetlands, floodplains, and forests as essential and effective components of our water infrastructure. New York City’s \$600 million investment in Catskills land protection and restoration did the job of \$6 billion in capital costs to construct a water filtration plant as well as \$200-300 million in annual operation and maintenance costs.⁷ And the city is consistently noted for having some of the safest drinking water in the world.

⁴ Milly, et al., “Stationarity is Dead: Whither Water Management?” *Science*, February 1, 2008: Vol. 319, no. 5863, pp. 573 - 574

⁵ Scripps Institution of Oceanography, Feb. 12, 2008 news release (accessed Oct. 25, 2008, <http://scrippsnews.ucsd.edu/Releases/?releaseID=876>)

⁶ Kundzewicz, Z.W et al. “Freshwater Resources and Their Management.” *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, M.L. Parry et al. Eds., Cambridge: Cambridge University Press, 2007. 173-210.

⁷ “Ecosystem Services: A Primer.” The Ecological Society of America. August 2000. <http://www.actionbioscience.org/environment/esa.html>.

Second, we need to spend every water dollar as wisely as possible. Spending money wisely means investing in multi-purpose solutions that lower costs and provide more benefits. Recently, the City of Indianapolis announced that by using wetlands, trees, and downspout disconnection to reduce stormwater flows into their combined sewer system, the City will be able to reduce the diameter of the planned new sewer pipe from 33' to 26', saving over \$300 million.⁸ Spending money wisely also means prioritizing hard infrastructure dollars to protect the highest-value investments, such as downtowns and critical facilities, like hospitals. It does not make economic sense to spend precious capital to build levees to protect soybean fields or 'sewer lines to nowhere.' Finally, we must invest in efficiency first, before we invest in any new hard infrastructure. If the Atlanta metro area undertook a set of common water efficiency practices and policies, it could save as much as one-third of its current water use, twice the amount of water provided by four proposed dams, saving \$700 million.⁹ Those public savings, in turn, could be used to meet other municipal needs.

Third, a 21st century approach to water infrastructure enhances community safety and security. Clean, abundant water and protection from storms is at the heart of our safety and security. Climate change and other impacts are threatening that security, and we need a more modern mix of green and traditional approaches that will help communities be more prepared for the coming changes.

We cannot eliminate engineered systems, such as pipes, treatment plants, and levees. Nor should we. They are important elements of our clean water system, and many are in desperate need of repair or replacement. But relying on fixed engineering solutions alone won't solve our future needs. Instead, we should optimize the mix of green infrastructure as a "first line of defense" complemented with state-of-the-art engineered technology. Chicago and other cities are installing green roofs to capture stormwater, and are using that water to cool buildings, flush toilets, and irrigate landscaping. This not only reduces the use of water treated to drinking water standards, it reduces sewer overflows and flooding and cuts rooftop temperatures by as much as 90 degrees.

Economic Stimulus and Green Jobs

Green strategies create good jobs in many sectors, including plumbing, landscaping, building, and design. It also supports supply chains and the jobs connected with manufacturing of materials including roof membranes, rain barrels, and permeable pavement. For example, New York City's broad sustainability plan, PlaNYC, includes investments in green infrastructure to reduce stormwater and sewage and protect drinking water supply. The City estimates that full implementation of PlaNYC will create 4,449 water infrastructure jobs of all types per year. In DeKalb County, Georgia, where retrofits

⁸ *Sewer Overhaul Mean More Green*, Indystar.com Oct. 14, 2008, <http://www.indystar.com/apps/pbcs.dll/article?AID=/20081014/LOCAL18/810140384>.

⁹ American Rivers, *Hidden Reservoir: Why Water Efficiency is the Best Solution for the Southeast*, October, 2008, at 6, http://www.americanrivers.org/site/DocServer/SE_Water_Efficiency_Oct_2008_opt.pdf?docID=8421

with water-efficient fixtures are now required upon creating a new account with the water utility, the County estimates that retrofitting its 165,000 pre-1993 homes would generate between \$74.25 million and \$148.5 million worth of skilled, well-paying jobs in the plumbing industry.¹⁰

Green strategies for meeting water needs are smarter environmentally and fiscally, and are already being applied by many forward-looking cities, including New York, Chicago, Portland, Seattle, San Francisco, Minneapolis-St. Paul, Milwaukee, Kansas City, Toledo, Cincinnati, Philadelphia, and many others. Seattle Public Utilities is spending 13 percent of its capital improvement budget on green infrastructure projects.¹¹ The Metropolitan Water Reclamation District in Chicago estimates that 22 percent of its 2007 stormwater fund expenditures were directed toward green infrastructure projects.¹² New York City plans to spend nearly \$1 billion per year over 20 years in green strategies to address stormwater needs under its PlaNYC 2030 plan to prepare for climate change impacts.¹³

Looking across those and other examples, an average of 16.1 percent of water infrastructure funding is already being applied by cities for green approaches. Based on EPA's estimate of a clean water capital funding shortfall of \$388 billion over a twenty year period,¹⁴ that percentage equates to at least \$3 billion in funding for green infrastructure strategies per year. H.R.720, passed by the House in 2007, called for a 25 percent set-aside for green strategies for all appropriations over \$1 billion. We feel that a level between 16 percent, reflecting current city investments, and 25 percent, reflecting policy passed by the House, should be the standard for all new federal water investment.

Given the value of and demand for green infrastructure, we believe that Congress should appropriate at least 16 percent of clean water and drinking water infrastructure funding in the form of grants for green strategies in any stimulus bill.

We are at a cross roads today in how we manage our water needs. We can no longer afford to apply outmoded designs of the past to meet the challenges of the future. The time is now to make long-lasting economic investments, create good jobs that respond to the new, green economy, and meet the water challenges facing us in this century.

American Rivers appreciates the House Transportation and Infrastructure Committee's consideration of our views.

¹⁰ Jenny Hoffner, American Rivers, personal communication.

¹¹ The Civic Federation, *Managing Urban Stormwater with Green Infrastructure, A Case Study of Five U.S. Local Governments*, 2007, at 43-44.

¹² *Id.* at 19.

¹³ New York City, Draft Sustainable Stormwater Management Plan, Oct. 1, 2008, at 41, accessed Oct. 25, 2008,

http://www.nyc.gov/html/planyc2030/downloads/pdf/draft_sustainable_stormwater_management_plan_october_2008.pdf)

¹⁴ U.S. EPA, The Clean Water and Drinking Water Infrastructure Gap Analysis, at 26, September, 2002 (<http://www.epa.gov/owm/gapreport.pdf>)