

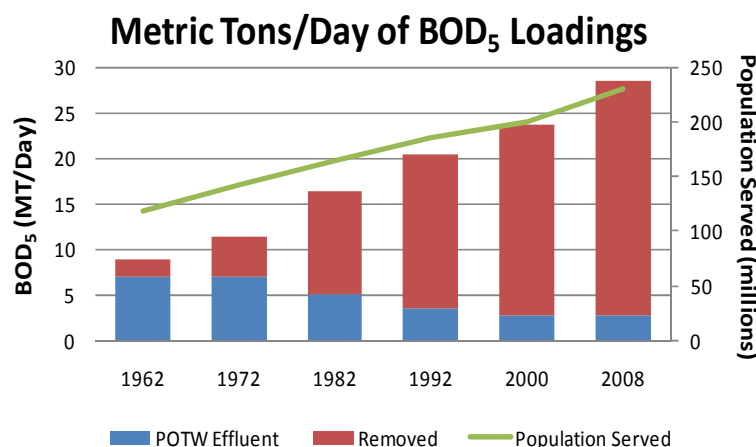


Two Sides of the Same Coin: Increased Investment & Regulatory Prioritization

In the 1972 Clean Water Act, America committed to a national goal of fishable and swimmable waters. To back this objective, the U.S. Congress established an intergovernmental partnership to pay for needed clean water infrastructure. For twenty years, federal and local governments invested heavily in treatment and conveyance works and the quality of our waters improved dramatically. Over the last 20 years, however, this trend has reversed. The federal government has largely withdrawn from directly funding clean water infrastructure. At the same time, pollution from nonpoint sources, like urban and agricultural runoff, has escalated degradation of water quality in America's lakes, rivers, estuaries, and coastal waters. We can support the national priority for clean water, but it will take smart investments, flexible approaches, and a renewed intergovernmental partnership to get there.

Clean Water Act Investments and Resulting Achievements – A Historical Perspective

America's clean water achievements have been remarkable since the 1972 federal Clean Water Act set clear national objectives: achieve clean water across the nation and, as means to do so, provide federal financial assistance to construct publicly owned wastewater treatment works. Despite multiple major and minor amendments over nearly 40 years, these objectives still drive America's clean water program. Over the last four decades, the nation has invested some \$600 billion¹ to build, repair, and replace wastewater infrastructure, preventing nearly 30,000 tons of organic pollutants a day from reaching America's waters, a figure that has steadily increased over the years along with significant growth in the number of people served by America's wastewater utilities.



Compared to conditions in the 1970s, water quality today is better across the board. In many places, improvements have been dramatic — fish have returned to once toxic rivers, diverse aquatic life now thrives in many of the nation's bays and estuaries, and thousands of miles of beaches are enjoyed each summer free of harmful bacteria.

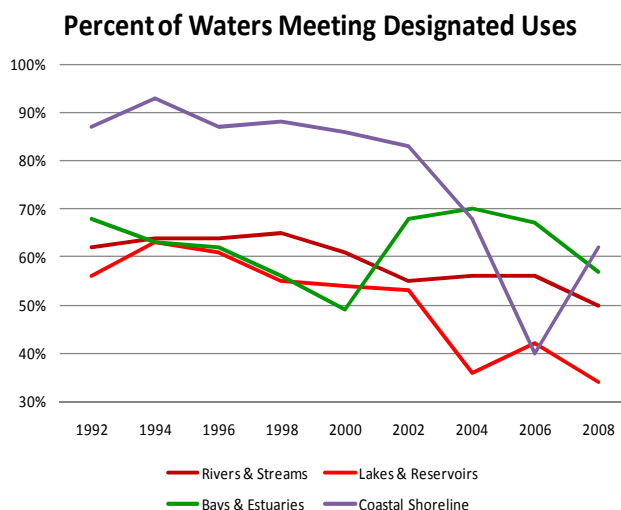
In addition to these ecological benefits, America has enjoyed a wide range of economic benefits attributable to cleaner water. Every day, Americans rely on clean water for drinking, recreation, commercial fishing, and a wide range of industrial activity. These economic activities generate billions of dollars in income every year, none of which would be possible without the clean water resource base on which they rely. Adequate capacity to safely manage wastewaters is key to industrial production, public health and safety, and the general welfare of communities. The very existence of clean natural ecosystems increases the economic value of adjacent lands and nearby development, which in turn stimulates additional investments, enhances local tax bases, and

¹ US Congressional Budget Office, *Public Spending on Transportation and Water Infrastructure*, November 2010. All figures expressed in 2010 dollars, unless noted otherwise.

creates jobs.² Moreover, nearly 40 years of clean water experience have transformed some 15,000 local wastewater utilities into sophisticated resource management organizations.

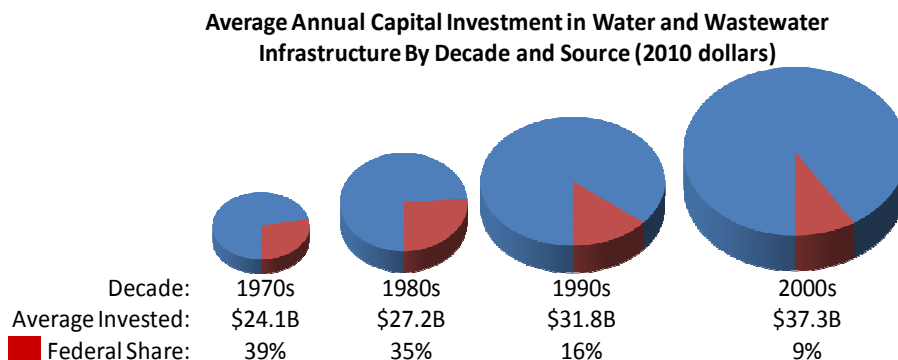
The Reversal of the Trend toward Cleaner Water. . . Why Now?

These achievements may seem impressive in the aggregate; however, a closer examination of trends tells a very different story. Dramatic improvements in water quality in the 1970s and 1980s began to reverse in the 1990s and have continued to decline through 2008, the most recent data available. Lake water quality has declined dramatically, for example, from 63% meeting designated uses such as recreation and drinking water in the early 1990s to just 34% meeting these same uses today. The percentage of our shoreline meeting fishable and swimmable standards has declined from more than 90% in the early 1990s to just 60% today. Estuarine water quality has fluctuated, but today, just 57% of these waters are clean enough to support aquatic life, compared to nearly 70% in the early 1990s. In the mid 1990s, 65% of America's rivers and streams were clean enough to meet their designated uses for drinking water, recreation, and fisheries. Today, that figure has fallen to just 50%.



Why is water quality on the decline? First, costs in the first 20 years of a new national program to reduce loadings from point sources were significantly lower than costs in the second 20 years. In essence, between 1972 and the early 1990s, we harvested the relatively low hanging fruit — installation of secondary treatment in place of no treatment or just primary treatment. Removing the next increment of pollutants, the target of the 1990s and 2000s, by increasing treatment levels to advanced secondary or tertiary treatment was orders of magnitude more expensive. The cost of removing target pollutants like nutrients and reducing wet weather flows in general over the next 20 years will be more expensive still.

Second, the funding for clean water programs has shifted dramatically over this period, from an intergovernmental approach in the 1970s and 1980s to a largely local, user-financed approach thereafter.



²Clean water supports a \$50 billion a year water-based recreation industry, at least \$300 billion a year in coastal tourism, a \$45 billion annual commercial fishing and shell fishing industry, and hundreds of billions of dollars a year in basic manufacturing that relies on clean water. Clean rivers, lakes, and coastlines attract investment in local communities and increase land values on or near the water, which in turn, create jobs, add incremental tax base, and increase income and property tax revenue to local, state, and the federal government. For a summary discussion of the monetary values of these economic benefits of clean water see: Water Infrastructure Network, *Clean and Safe Water for the 21st Century*.

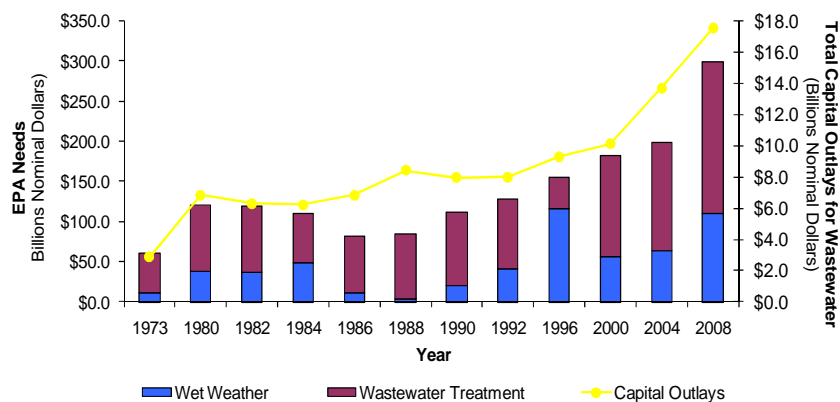
According to the U.S. Congressional Budget Office, the federal share of total public capital investment in water and wastewater infrastructure peaked in the 1970s at an average of 39% (63% in 1977) and has declined since, falling to just 9% on average in the 2000s (6% in 2010).³ The federal share of total investment, including capital, operations, and maintenance (O&M) fell to less than 3% by 2010. Also, it is important to note that O&M as a percentage of total investment increased from 44% in 1972 to 65% in 2010. As a result of mounting pressures to meet annual operating budgets, which are especially heightened in times of recession, local investment priorities shift to meeting immediate customer and regulatory demands, which can crowd out funding for longer-term environmental advancements. At the same time, the infrastructure that was the subject of federal investment during the initial phase of implementing the Clean Water Act has declined and is reaching the end of its useful life.

Third, there is strong scientific evidence that continued focus on point sources to achieve water quality gains was ineffective as of the late 1990s. According to biennial surveys conducted by the states, municipal wastewater and urban stormwater have declined steadily as sources of impairment over the last two decades. Runoff from agriculture and airborne deposition of pollutants are the main causes of remaining water quality impairment in rivers, streams, lakes, and ponds.

Can We Achieve National Clean Water Goals? The Role of Regulatory Prioritization & New Approaches to Clean Water Act Implementation

What we know is this: the quality of America's waters improved significantly when the federal government played a strong role in funding investments in clean water. We also know that America's wastewater utilities have removed the vast majority of conventional pollutants from municipal wastewater and, looking forward, face significantly higher costs to remove the next increment plus control pollutants from urban runoff. Further, it is clear that states, local communities, and individual households face intense pressure to make ends meet. Finally, the reality is that despite hundreds of billions of dollars already invested in municipal wastewater infrastructure, future investments will be even greater.

Consider this historical trend: both the U.S. Environmental Protection Agency's (EPA) estimate of future wastewater infrastructure needs to meet Clean Water Act goals and investments to meet these needs over the same period have grown steadily since 1973. We as a nation are spending too little, we are too narrowly focused on point sources, and the rate of new regulations and requirements are expanding investment needs faster than our ability to meet them.



³ US Congressional Budget Office, *Public Spending on Transportation and Water Infrastructure*, November 2010.

So what are the options? Clearly over the long-run, we must find ways to do more with less. This means some combination of:

Maximizing water quality returns for every dollar invested by making science-based water quality investment decisions on a watershed basis in order of greatest water quality gains per dollar invested, while maintaining the improvements and progress made to date. Instead of driving America's wastewater utilities further out the unit removal curve where the cost of the next unit of pollutants removed is very high, we should focus our resources on pollution sources for which very little has been done to date, costs are substantially lower, and water quality gains much greater.

Reducing unit costs through rapid introduction of new technology and innovative management practices. After 40 years of experience, today's wastewater utilities have transformed themselves into sophisticated resource management organizations. Opportunities exist in such areas as energy management, resource and materials recovery, and reuse of reclaimed water. Some of these initiatives may require reorientation of infrastructure, which will be costly in the short run, but yield savings for decades. Others will require new technology and regulations that encourage pilot applications.

Allowing flexibility in local decisions including regulatory processes and timelines would enable wastewater utilities to explore the first two options. In many watersheds, reducing loadings from nonpoint sources like agriculture, as well as point sources, would result in much greater water quality gains.

Taken together, these three approaches could help reverse water quality declines and ease costs for local communities to deliver them over the next decade or more. Also, such an approach could reduce future investment needs by more than 20%. Such a move is vital and is at the core of the *Money Matters* campaign. But these options alone will still be insufficient to meet Clean Water Act goals. The backlog of needs is simply too high given aging infrastructure systems, limited funds, and a large proportion of households already at their financial tipping point.

We simply need to invest more now.

Restoring Our Successful Intergovernmental Partnership

Today, households and businesses in local communities pay for virtually 100% of the cost of wastewater management with local governments raising 97% of the capital to do so. This approach, however, has been inadequate to meet national clean water priorities. Moreover, the efficiency, equity, and practical aspects of sustainable financing of wastewater infrastructure — achieving our national goal for clean water by meeting environmental and customer service standards — suggest that we must seek solutions beyond paying for these critical national infrastructure systems strictly with local dollars.

Americans have not been asked to apply this local funding strategy to other critical infrastructure networks. Paying for America's highways through strictly local fees, for example, would create tolls only for residents, while travelers passed through freely. Drivers would pay gasoline taxes only at their local pumps, but would enjoy tax-free prices for gas purchased outside their

communities. Paying for airports this way would mean only passengers who were local residents would pay landing fees when they touched down in their city, while international travelers got a discount on their airfares. These basic infrastructure systems underpin the broader U.S. economy. Their benefits accrue widely to users without geographic limitations imposed by local political boundaries — just like the benefits delivered by America’s network of rivers, lakes, streams, and shorelines.

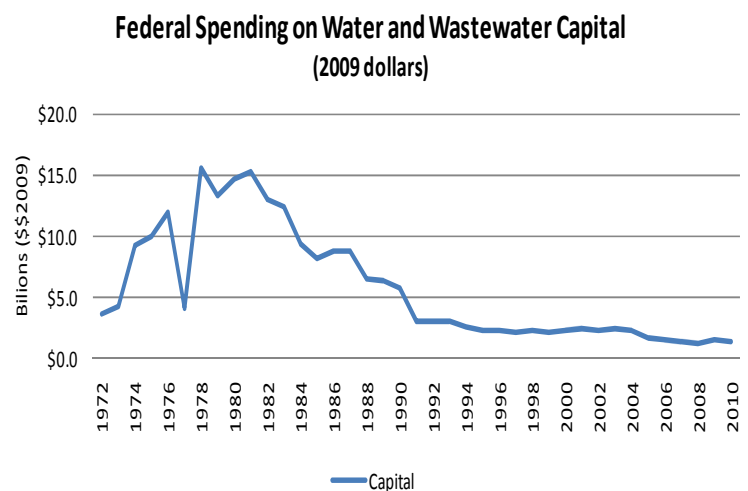
Put simply, on the basis of water quality outcomes, returns on public capital, and environmental equity, the case for federal investment is compelling. Needs are large and growing. In many locations, local sources cannot be expected to meet this challenge alone. Because waters are shared across local and state boundaries, the benefits of federal investment will accrue to the entire nation, while ensuring that no community is environmentally disadvantaged regardless of income level or demographics. Clean water is no less a national priority than are national defense, an adequate system of interstate highways, or a safe and efficient aviation system. These latter infrastructure programs enjoy sustainable, long-term federal grant programs funded through dedicated national revenues. Under current policy, wastewater infrastructure does not.

How Much Must Be Spent to Meet the Clean Water Act’s Goals and Who Should Pay?

Federal clean water appropriations have fallen from about \$6 billion a year at the outset of the State Revolving Fund (SRF) program in 1988 to about \$1 billion a year today. Simply restoring federal funding to its average of about \$3 billion a year since inception would be a first step to restore the intergovernmental partnership that has characterized America’s clean water program for nearly 40 years. But it would not reverse declining water quality broadly.

Moreover, with needs approaching \$300 billion, meeting local customer-driven service levels and making tangible progress toward the nation’s Clean Water Act goals will require significantly greater levels of investment. Also, more realistic water quality standards, innovative technologies and approaches such as green infrastructure and holistic watershed planning are also essential.

A 50% increase in investment in clean water infrastructure would deliver some 200,000 new jobs, more than a comparable investment in schools, transport infrastructure, energy infrastructure, or broad tax cuts.⁴ Moreover, these jobs would be located in many communities with the highest unemployment and fewest prospects for reducing it. As water bodies are restored, both direct and indirect benefits will add value to local economies and national gross domestic product (GDP) through more productive fisheries and shellfisheries; higher rates of water-based recreation with



⁴ For details, see: James Heintz, Robert Pollin, and Heidi Garrett-Peltier, Political Economy Research Institute of the University of Massachusetts, *How Infrastructure Investment Support the US Economy: Employment, Productivity and Growth*, prepared for the Alliance for American Manufacturing, January 2009.

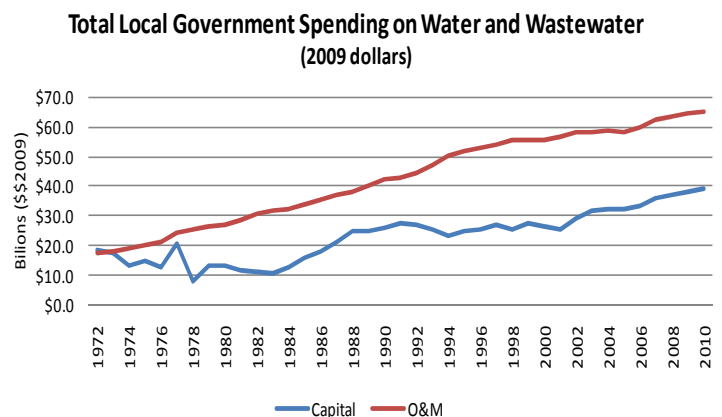
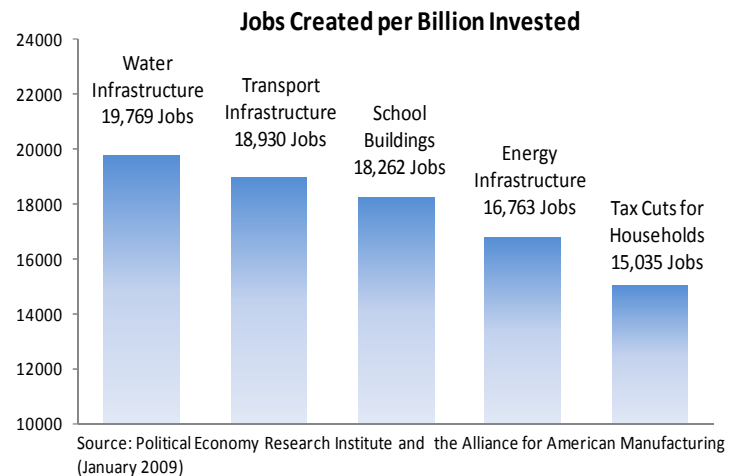
an accompanying stimulus effect of household expenditures needed to support these recreational activities; significantly increased land values adjacent to and near clean bodies of water; and greater output of agriculture, tourism, and basic industries that rely on clean process water or adequate capacity to treat increased wastewater flows as production scales up.

Even with a 50% increase of federal investment, local governments would still be responsible for raising two-thirds of all capital invested. Local sewer rates would still increase at about 3% above inflation on average nationwide, a major driver being Operations & Maintenance (O&M) costs which have risen by this amount each year over many decades. For many communities, the cost of wet weather management programs will add a significant financial burden for many decades.

Consider the findings of the U.S. Treasury and the President's Council of Economic Advisors, who in a recent analysis concluded:

“Many studies have found evidence of large private sector productivity gains from public infrastructure investments, in many cases with higher returns than private capital investment. Research has shown that well designed infrastructure investments can raise economic growth, productivity, and land values, while also providing significant positive spillovers to areas such as economic development, energy efficiency, public health and manufacturing.”⁵

The upside can be dramatic if we get it right. Economists at the University of Massachusetts, for example, found that one percentage point increase in the growth rate of core infrastructure (water, wastewater, energy, and transport) leads to an increase in the growth rate of private sector GDP of 0.6 percentage points. For every \$1 billion in new investment in core infrastructure, we can expect an extra \$840 million added to GDP each year from the private economy, of which about \$141 million is increased output from the manufacturing sector.⁶



⁵ US Treasury Department with the Council of Economic Advisors, *An Economic Analysis of Infrastructure Investment*, October 11, 2010.

⁶ James Heintz, Robert Pollin, and Heidi Garrett-Peltier, Political Economy Research Institute of the University of Massachusetts, *How Infrastructure Investment Support the US Economy: Employment, Productivity and Growth*, prepared for the Alliance for American Manufacturing, January 2009.

Of course, not all infrastructure investments are productive, so any new investment would have to be well-planned and justified on the basis of environmental and economic returns.

Money Matters

Money matters. It matters because the nation's clean water progress and achievements are at risk. It matters because local ratepayers are increasingly tapped out. It matters because the benefits of clean water can repay our investments handsomely through jobs, productivity, and competitiveness. It matters because clean water needs to be available to all Americans wherever they live, visit, vacation, or invest. Money matters if we hope to achieve America's clean water goals.

To learn more about the *Money Matters* campaign visit NACWA's *Money Matters* website at www.nacwa.org/moneymatters.