

dcwasa 2009 annual report

serving the public • protecting the environment



Water is the foundation for all life. It is an essential resource that many people take for granted. In fact, they may rarely give it a second thought.



Yet we at the DC Water and Sewer Authority think about water 24 hours a day, seven days a week, 365 days a year. We work to provide services essential to health and safety, including safe drinking water, clean wastewater that we return to the environment, and access to water for firefighting.

We are planning construction projects and technology upgrades to help us do an even better job tomorrow than we are doing today. Our scientists are engaged in research projects that will help guide the practices of the next generation of water and wastewater experts. We think about water so our customers don't have to.

table of contents

A Sustainable Delivery of Critical Services	2
Facts-at-a-Glance	3
Message from the Chairman	4
2009 DC WASA Board of Directors	6
Message from the Interim General Manager	8
Financial Performance	10
Consumer and Community Services	12
Operations and Environmental Quality	16
Organizational Effectiveness	24
Industry and Environmental Research	28
Awards and Recognition	30
Finance and Budget	32

mission, vision and values

Mission

Serve all of its customers with outstanding service by providing reliable and cost-effective water and wastewater services in accordance with best practices

Vision

Provide world-class water and wastewater services as a leading steward of the environment

Values

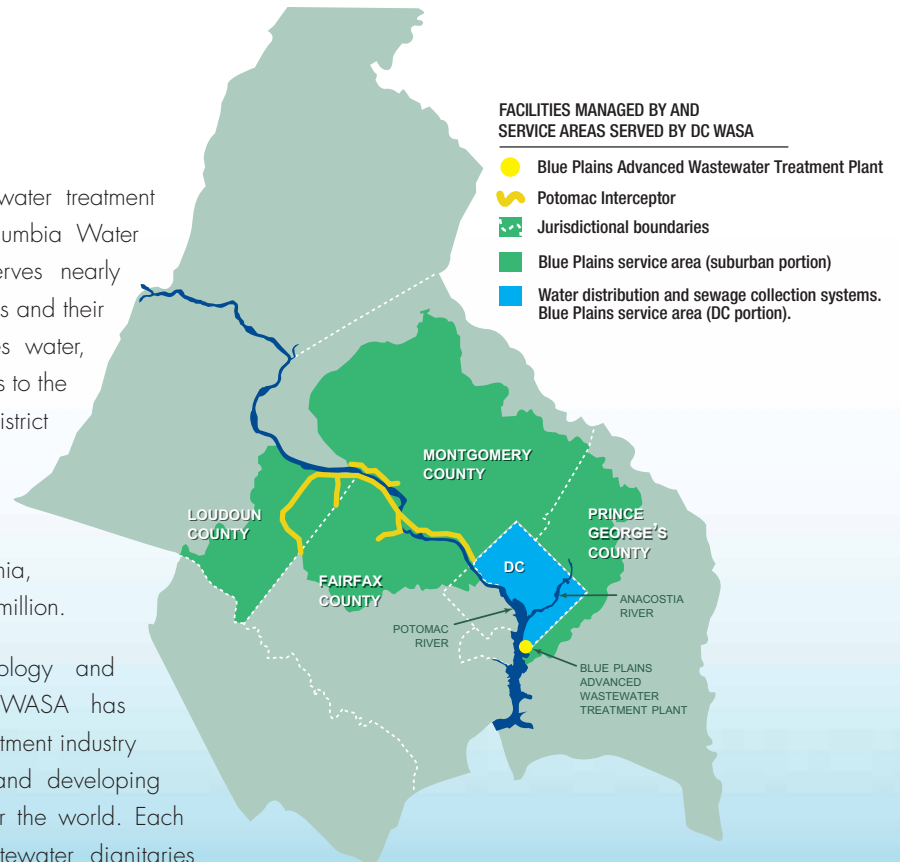
- Respectful, responsive and sensitive to the needs of our customers and employees
- Ethical and professional conduct
- Vigilant to ensure optimal health, safety and environmental outcomes
- Dedicated to teamwork and cooperation
- Committed to equity, trust and integrity in all that we do

a sustainable delivery of critical services

Home to the largest advanced wastewater treatment plant in the world, the District of Columbia Water and Sewer Authority (DC WASA) serves nearly 600,000 residents, as well as businesses and their employees. The Authority also provides water, sewer, and wastewater treatment services to the 16.6 million visitors who come to the District of Columbia each year. Moreover, the Authority provides wholesale wastewater treatment services to jurisdictions in Maryland and Virginia, serving an additional population of 1.6 million.

Through use of cutting-edge technology and innovative “green” advances, DC WASA has become a leader in the wastewater treatment industry and serves as a model for current and developing water and wastewater systems all over the world. Each year, delegations of water and wastewater dignitaries from throughout the country and around the globe visit DC WASA for briefings on operations, governance, financing and water pollution control.

DC WASA was created by District law in 1996, with the approval of the United States Congress, as an independent authority of the District with a separate legal existence. An 11-member Board of Directors with representatives from the District, Montgomery and Prince George’s counties in Maryland, and Fairfax County in

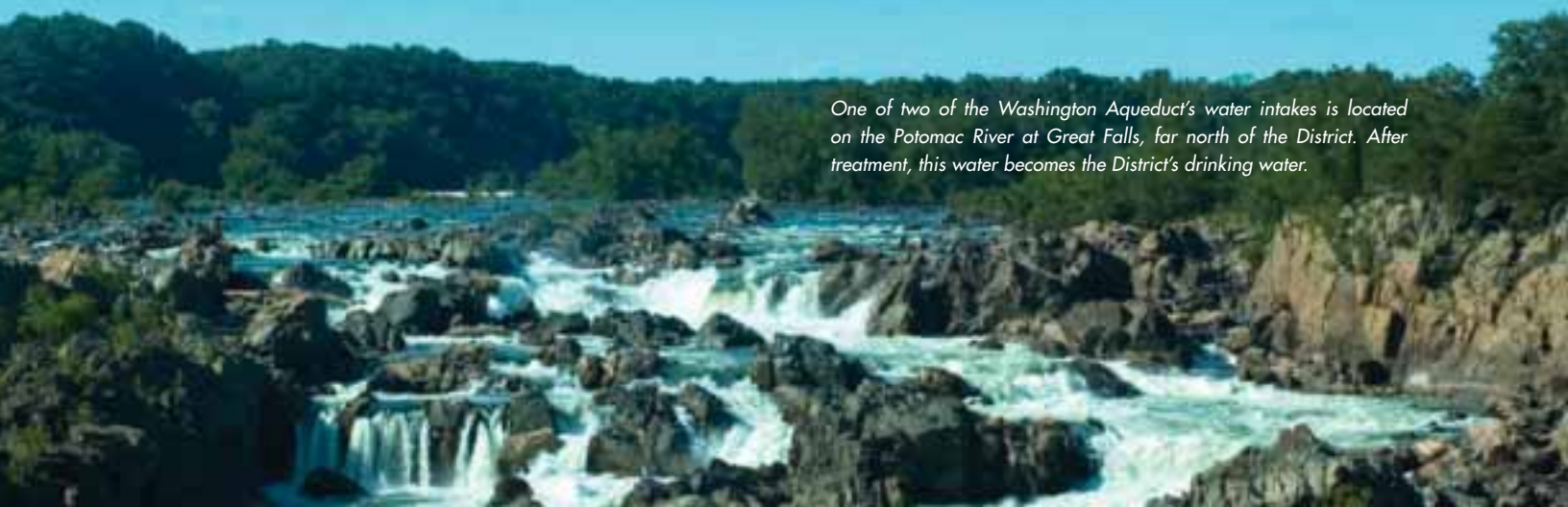


Virginia governs DC WASA. The District members vote on issues related solely to the District.

Daily operations are administered by a General Manager who reports to the Board. Nearly 1,000 dedicated employees work at five facilities in the District.

This report highlights the accomplishments of the Authority in Fiscal Year 2009 (FY 09). Additional information about DC WASA and its programs, services and community activities can be found on the web site: www.dcwasa.com.

One of two of the Washington Aqueduct's water intakes is located on the Potomac River at Great Falls, far north of the District. After treatment, this water becomes the District's drinking water.



dc water and sewer authority facts-at-a-glance

Service Area	DC WASA's service area is approximately 725 square miles.
	DC WASA provides retail water and wastewater (sewer) service to the District of Columbia.
	DC WASA provides wholesale wastewater treatment service to Montgomery and Prince George's counties in Maryland and Fairfax and Loudoun counties in Virginia.
People Served	DC WASA provides nearly 600,000 residents, 16.6 million annual visitors, and 700,000 people who are employed in the District of Columbia with water and sewer/wastewater treatment.
	Blue Plains treats wastewater from jurisdictions in Maryland and Virginia for approximately 1.6 million people.
Employees	Approximately 1,000 people work for DC WASA at various facilities throughout the District.
Drinking Water Source	The U.S. Army Corps of Engineers Washington Aqueduct treats water from Great Falls on the Potomac River that is sold to DC WASA for distribution in the District.
Drinking Water Quality	Strong emphasis on water quality involves annual system flushing; routine water quality testing; ongoing system upgrades; lead water service line replacement; and strong partnerships with the U.S. Army Corps of Engineers Washington Aqueduct, the District environmental and health departments and the George Washington University School of Public Health.
Water Pumped	DC WASA pumped 108 million gallons of water per day on average in FY 09.
Treated Water Storage	DC WASA stores 61 million gallons of treated water at its eight facilities. An additional 49 million gallons is stored by the Washington Aqueduct.
Water System	1,300 miles of water pipes, five pumping stations, five reservoirs, three water towers, 36,000 valves, and more than 9,000 fire hydrants comprise the DC WASA water distribution system.

Blue Plains Advanced Wastewater Treatment Plant	Covering 150 acres on the bank of the Potomac River at the southernmost tip of the District, Blue Plains is the largest advanced wastewater treatment facility in the world.
Wastewater Treatment Capacity	Blue Plains has a treatment capacity of 370 million gallons per day and a peak capacity of more than 1 billion gallons per day.
Sewer System	1,800 miles of sanitary and combined sewers, 22 flow-metering stations and nine off-site wastewater pumping stations comprise the sewer system.
Financial Performance	DC WASA has a "AA" bond rating from three rating agencies and 13 years of unqualified audit opinions on financial statements.
Customer Service	Information is provided to customers through bill inserts and an easy-to-navigate web site. The High Usage Notification Application (HUNA) program notifies customers when there is an unusual spike in water use; an interactive voice recognition phone system is available in more than 150 languages; and the Emergency Call Center assists customers 24 hours a day. Online bill payment and other services are available, and two programs assist eligible customers who have difficulty paying their water and sewer bills.
Community Service	DC WASA conducts science classes in District schools and tours of Blue Plains. In addition, the Authority participates in forums, fairs, and community meetings, providing important information to District residents. DC WASA's employees participate in a wide range of volunteer and charitable efforts.
Governance	The Board of Directors—with members from the District and from Montgomery, Prince George's, and Fairfax counties—establishes policies. The District members set rates, charges and policies for District services, while the full Board sets policies for all joint uses of Blue Plains. The General Manager runs the daily operations of the Authority and is responsible for its overall performance.



message from the chairman

The year 2009 saw significant changes, challenges, and accomplishments for DC WASA. Throughout the year, DC WASA continued to provide its ratepayers with excellent service, affordable and clean water, and environmentally conscious wastewater treatment services. The pages of this Annual Report highlight many of the accomplishments of the Authority throughout the past year.

Changes

Because 2009 marked my first year as Chairman of the Board, I would like to begin by thanking my predecessor, Robin B. Martin, for his leadership and dedicated efforts. In addition, I wish to thank Mayor Adrian M. Fenty for his trust and confidence in nominating me for this job, as well as Jerry N. Johnson, the former General Manager, whose 12 years of leadership transformed the Authority from an ineffective, poorly run agency of the District Government into a world-class independent utility.

Mr. Johnson announced his departure from DC WASA in March 2009. The Board's search for a new General Manager focused on leadership and general management skills, along with experience in three areas fundamental to DC WASA's future: clean water, community outreach, and environmental regulation. George S. Hawkins, DC WASA's new General Manager, has deep experience in all the desired areas of expertise. Mr. Hawkins's exceptional leadership skills and vision will be fundamental to making DC WASA the best water utility in the world. I know the entire Board joins me in welcoming Mr. Hawkins to his new role with great excitement about where he will lead the Authority going forward.

Challenges

Every report that the Board has received for almost five years related to the quality of the water DC WASA distributes to its customers has demonstrated that the water is well within federally mandated water quality standards. However, shortly after my term began, a new study alleged that some children in the District had elevated blood lead levels as a result of heightened lead levels in the water between 2001 and 2004.

Despite the previous improvements DC WASA made to water quality testing and monitoring procedures, the public response to the study made it clear that DC WASA needed a new, fundamentally different approach to water quality issues if the Authority were ever going to regain the public's trust and confidence. The Board and management have stepped up our efforts to maintain thorough and consistent testing; to

explore new ways to improve testing protocols; and to better communicate with government agencies and the public in an open, transparent, and proactive manner.

In late July, a house fire erupted in Northwest Washington that put into question the reliability of the District's water supply system for fire suppression. Beyond providing safe drinking water and disposing of wastewater in a clean, environmentally friendly manner, nothing is more important to public safety than a functioning water distribution system coupled with world-class firefighting equipment and crews.

Numerous meetings, hearings, and training sessions took place immediately after the fire to better understand what happened, why it happened, and what changes needed to be implemented to enhance the District's firefighting system. DC WASA and the District of Columbia Department of Fire and Emergency Services (DC Fire and EMS) have worked closely to assure the public that the water supply system is functioning properly and that DC Fire and EMS can locate and access the water it needs to suppress fires. The DC WASA Board takes this issue extremely seriously and will continue to monitor the Authority's progress.

The final major challenge that the Authority faced in 2009 was the significant recession still gripping our nation. DC WASA, like most companies, utilities, and government agencies, is faced with decreasing revenues and increasing costs going forward. Decreased revenues come from the economic slowdown and from water conservation efforts throughout the region. Increased costs are mostly due to large capital expenditures to meet environmental mandates. Two environmental projects—lowering the nitrogen content of the water that leaves the Blue Plains Advanced Wastewater Treatment Plant and building capture tunnels that will store wastewater and stormwater runoff that overflows into the Potomac and Anacostia rivers during periods of heavy rain—will require massive capital expenditures.

Decreased revenues coupled with multibillion-dollar capital expenditures (and the associated borrowing cost) will produce one undeniable consequence: higher consumer and wholesale

rates. The Board and management are very focused on this issue and will work diligently to manage the Authority's expenses and capital spending to keep rates the lowest they can be.

Accomplishments

Literally hundreds of accomplishments throughout 2009 are worthy of mention in this Annual Report. The seamless transition of leadership to a new Chairman and new General Manager speaks volumes about the management culture and professionalism that exist throughout DC WASA. The issuance of \$300 million of municipal bonds at the height of the global financial crisis in January is testament to the highly skilled and conservative management of the Authority's finances. The fact that we had no major operational setbacks after significant infrastructure failures of aging pipes is evidence of the deep engineering expertise inside DC WASA.

The Authority's Chief Technology Officer was named as one of the Top 100 Chief Information Officers in the country by *CIO Magazine*, thus highlighting the Authority's use of information technology to increase efficiency and to interact with customers when and how they wish. All of those accomplishments would not be possible without the dedicated work of DC WASA's 1,000 employees every day of the year. On behalf of the entire Board of Directors, I want to thank all members of the DC WASA team for their hard work in 2009 and to congratulate them on their many accomplishments.

In closing, I'd like to thank my fellow Board members for the time and effort they invest in DC WASA. As anyone who has attended or watched a DC WASA Board meeting can attest, the DC WASA Board is a highly functioning, deliberative, and talented body. After the changes, challenges, and accomplishments of 2009, I am very excited about the Authority's future under the talented leadership of General Manager Hawkins and his executive team.



William M. Walker
DC WASA Chairman of the Board

2009 dcwasa board of directors

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management are very focused on this issue and will work diligently to manage the Authority's expenses and capital spending to keep rates the lowest they can be."

William M. Walker, Chairman



William M. Walker
Chairman,
Principal Member
District of Columbia



Neil Albert
Principal Member
District of Columbia



David J. Bardin
Principal Member
District of Columbia



F. Alexis H. Roberson
Principal Member
District of Columbia



Alan J. Roth
Principal Member
District of Columbia



Keith M. Stone
Principal Member
District of Columbia



Dr. Jacqueline Brown
Principal Member
Prince George's
County, MD



David J. Byrd
Principal Member
Prince George's
County, MD



Timothy L. Firestine
Principal Member
Montgomery
County, MD



Robert Hoyt
Principal Member
Montgomery
County, MD



Anthony H. Griffin
Principal Member
Fairfax County, VA

Strategic Plan 2008-2013

The Authority continued to implement the Strategic Plan by the Board of Directors that guides DC WASA, for continued improvement as an industry leader. The following Critical Success Factors remain a roadmap to guide the Authority in its world-class performance.

- Environmental Stewardship
- Customer Confidence and Communications
- Operating Excellence
- Financial Integrity
- High Performing Workforce

Each of these success factors is supported by concrete objectives that emphasize measurable progress and accountability.



Howard C. Gibbs
 Alternate Member
 District of Columbia



Brenda Richardson
 Alternate Member
 District of Columbia



George S. Hawkins
 Alternate Member
 District of Columbia



Steven McLendon
 Alternate Member
 District of Columbia



Joseph Cotruvo
 Alternate Member
 District of Columbia



Howard Croft
 Alternate Member
 District of Columbia



Paivi Spoon
 Alternate Member
 Prince George's
 County, MD



Beverly Warfield
 Alternate Member,
 Prince George's
 County, MD



David W. Lake
 Alternate Member
 Montgomery
 County, MD



Kathleen Boucher
 Alternate Member
 Montgomery
 County, MD



Jimmie D. Jenkins
 Alternate Member
 Fairfax County, VA



message from the interim general manager

I am honored to have been selected by the Board of Directors to serve as Interim General Manager during the transition of leadership from Jerry N. Johnson to George S. Hawkins. Having served as the General Counsel for the Authority for the last five years, this experience has given me insight that will make me a more effective member of the leadership team as I return to my position.

The transition to a new General Manager also marks a transition for DC WASA as an enterprise. The turnaround engineered by Jerry N. Johnson created a solid financial foundation, improved operational efficiencies, and fostered a spirit of innovation and creativity. Those effects produced technology and business processes that continue to advance our business strategy.

We continue to be forward-looking about our operations and capital improvements, scientific about our approaches, and creative about our projects. A great example of creativity, which won an engineering design award this year, is the Wet Weather Plan. It incorporates the requirements of two separate mandates into one. This plan saves ratepayers and wholesale customers millions of dollars and resolves a land area shortage at Blue Plains.

Fiscal Year 2009 (FY 09) has been one of continued improvement and evolution. Following are some highlights.

Financial Performance

The Authority was able to maintain a strong financial position during FY 09 despite a challenging economic environment. DC WASA continues to evaluate and plan for the needs of the Authority now and well into the future. The Board focuses on the revenue needed to support the Authority's operations and the capital program, which is heavily influenced by federally mandated capital projects, and it sets rates accordingly.

By garnering a bond ratings upgrade (by Fitch Ratings to a "Positive" outlook), the Authority is able to borrow funds at favorable market rates, which is to the benefit of DC WASA and its ratepayers. In a tight credit market, the Authority issued \$300 million of municipal tax-exempt bonds that demonstrated the financial sector's confidence in DC WASA.

For the fiscal year ending September 30, 2009, effective management of the operating budget resulted in operating expenditures that came in under budget and the Authority ended the fiscal year in a healthy financial position.

DC WASA also unbundled the retail sewer rate structure and implemented a separate impervious area charge to recover the cost of the Combined Sewer Overflow Long Term Control Plan (CSO LTCP), thereby forming a more equitable rate structure and diversifying the revenue and rate base.

Capital Improvements

The Authority spent more than \$250 million on capital projects in FY 09. During the fiscal year, DC WASA began design on the first of three tunnels to be built as part of the CSO LTCP.

As part of the Chesapeake Bay Program, the Authority began design on the Enhanced Nitrogen Removal Facility at Blue Plains, which is needed to reduce the total nitrogen load in effluent. After extensive research, DC WASA updated its Biosolids Management Plan by proposing a new digestion process that will produce significantly fewer biosolids while providing a renewable fuel power source for the plant.

The Authority made progress on the Potomac Interceptor Permanent Odor Controls, which will help reduce odors along the 50-mile pipeline in the District, Maryland, and Virginia that delivers wastewater to Blue Plains.

Facility plans for both the water system and the sewer system, with recommendations for implementation, were presented to the Board in FY 09. In addition, the design was completed for the small-diameter water main program projects to be constructed in FY 10.

Technology

The use of technology across the enterprise is maximizing the efficiency and effectiveness of the Authority's personnel. For example, since implementing the Total Enterprise Asset Management System (TEAMS), along with improved business processes, the emergency investigation crew has dramatically improved its dispatch and response times.

Water Quality

In FY 09, DC WASA continued to perform more than 700 analyses per month on District tap water. Most of these water quality tests were performed as part of ongoing voluntary programs. Measured lead levels were at a historic low in FY 09. The Authority also produced new education materials to assist building owners and District residents in maintaining high water quality in their facilities and homes.

Government, Public and Community Relations

The Authority again expanded government and community outreach by meeting with elected officials, adding publications, increasing the number of community meetings,

and launching a redesigned web site to better communicate with our customers.

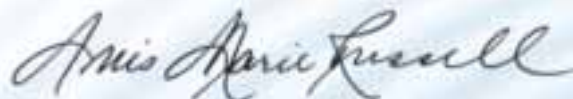
DC WASA continues an aggressive effort to educate elected officials at the local, state and federal levels about the critical need for funding the Authority's facilities, infrastructure, and important environmental protections. In FY 09, DC WASA received appropriations of \$8.2 million for Safe Drinking Water projects, \$3.2 million for Clean Water Act projects, and \$16 million for the Long Term Control Plan, as well as a grant of \$400,000 for the Blue Plains Nutrient Removal Program. The Authority secured additional grants under the American Recovery and Reinvestment Act in the amount of \$19.5 million for Safe Drinking Water projects and \$4.8 million for Clean Water projects. Those funds demonstrate that the Authority is being heard on Capitol Hill and locally, as we raise awareness about both the critical nature of our work and the needs for funding infrastructure improvements and pollution control efforts.

Employee Relations

Recognizing that employees are DC WASA's greatest asset, the Authority continues to invest in them by providing skills training, wellness programs and essential benefits programs. This year, the Human Resources department has streamlined the hiring process, branded recruitment materials and instituted technology improvements. The Authority continues to make progress on succession planning and on technical training programs to educate the next generation of operators and managers.

As I return to my role as General Counsel, I would like to thank Chairman William M. Walker and the Board of Directors for demonstrating their confidence in me by giving me the opportunity to manage this amazing enterprise. I also thank my colleagues, management, and staff, the DC WASA team, whose hard work day in and day out enables us to provide critical services to the nation's capital and surrounding jurisdictions. I deeply appreciate everyone's patience and unconditional support while I served as Interim General Manager.

The Authority is well positioned for the next phase of its development under the enthusiastic leadership of General Manager George S. Hawkins.



Avis Marie Russell
Interim General Manager
July 2, 2009 to October 18, 2009

financial performance

Every year, DC WASA faces the challenge of balancing the costs of capital improvement projects with the burden of a relatively small ratepayer base. The majority of the water and sewer infrastructure in the District is coming to the end of its useful life at the exact time that federally mandated water pollution control projects are competing for capital funds. The Authority continued its sound financial performance in FY 09, despite a troubled economy, as evidenced by the achievements highlighted here:

- In 2009, the Authority launched a billing structure with an impervious area charge (IAC). Unbundling the retail sewer rate and implementing this separate charge will help DC WASA recover more equitably the District's portion of the \$2.7 billion in costs associated with the federally mandated Combined Sewer Overflow Long Term Control Plan. The implementation of the IAC required building a city-wide database, integrating this database with an existing customer information system, getting legislation changed, and coordinating

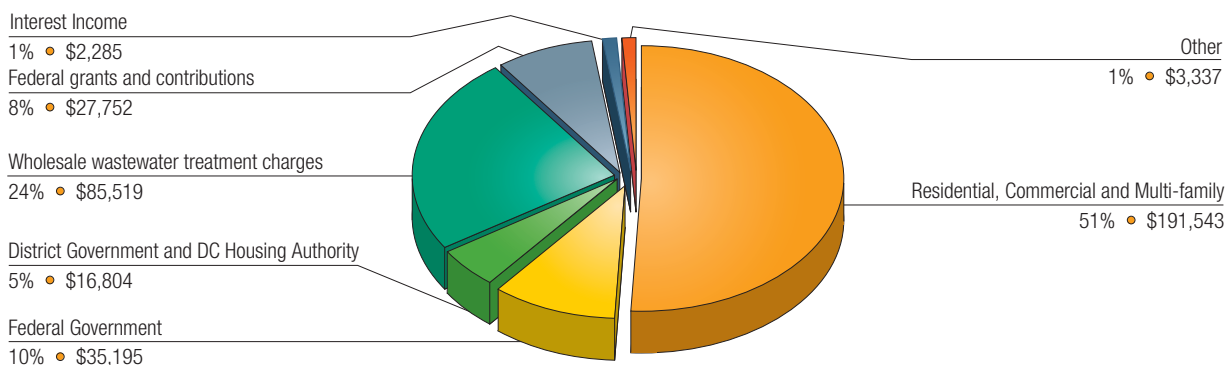
a communication campaign. The campaign was so successful that customer service representatives fielded minimal inquiries upon the launch of the new charge.

- In February 2009, the Authority successfully issued \$300 million of public utility senior lien revenue bonds (Series 2009A Bonds) in a tight credit market.
- The Authority received its 13th consecutive unqualified audit opinion.
- In January 2009, Fitch Ratings upgraded the Authority's outlook from "Stable" to "Positive."
- Retail customer receivables older than 90 days reached an all-time low, down 18 percent from FY 08 to \$4.9 million.
- The year ended with net assets in excess of \$1.0 billion.
- The Board of Directors revised the Authority's financial policy to establish the level of operating cash reserves as being the equivalent of 120 days of budgeted operations and maintenance costs, which are calculated on an average daily basis. The objective of this revision is to maintain at least \$125.5 million in operating reserves. The Authority maintained these cash reserves in FY 09 and was in compliance with all bond covenants.
- The Authority elected a new bank depository for DC WASA bank accounts and completed a seamless conversion within 90 days.
- The Authority instituted an ongoing review of DC WASA investment strategies in order to maintain safety and liquidity while achieving a rate of return comparable to established benchmarks.

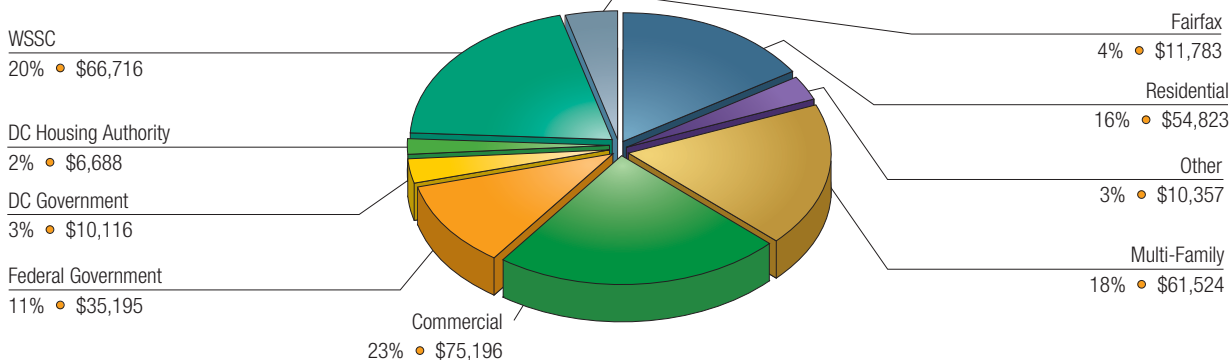




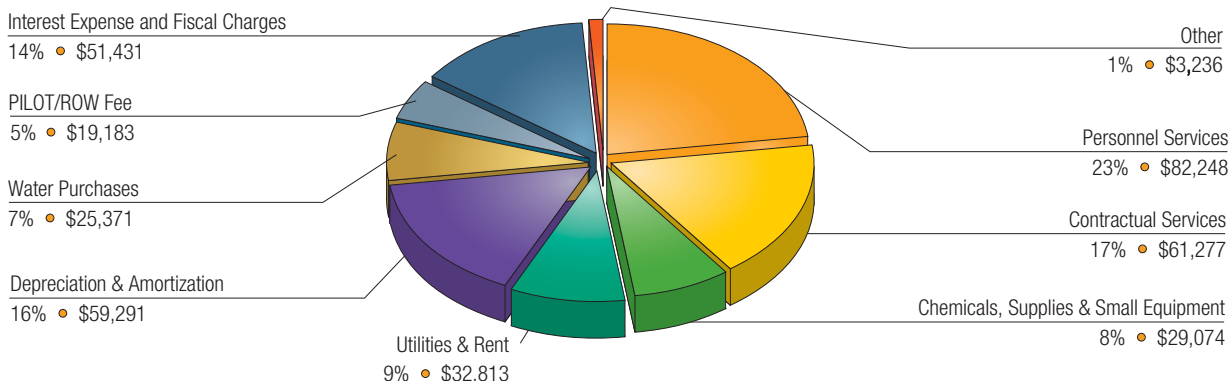
FY 2009 Total Revenues (\$ in thousands)



FY 2009 Total Operating Revenues by Source (\$ in thousands)



FY 2009 Total Expenses (\$ in thousands)



consumer and community services



DC WASA employees touch many lives every day. They reach into the community to deliver services, to inform customers and to provide assistance. Through use of smart technology, a 24-hour emergency call center, and a workplace culture of volunteer community service, the Authority is proud to deliver the highest levels of service and to exemplify good corporate citizenship.

The Customer Service Department employs 123 people who serve the citizens, agencies, business owners, and visitors in our nation's capital. These employees include field technicians, meter technicians, customer service and call center staff members, billing analysts, and members of the collections staff.

DC WASA continues to recognize that customers' time is a precious commodity that should be valued. Thus, employees strive to answer questions the first time, every time; to meet customers at their home or place of business at the scheduled time; and to respond to every emergency in less than 45 minutes—regardless of the time of day.

To measure customer service delivery, the Authority developed a tracking system to determine how many customer inquiries were resolved with the initial contact. In FY 09, 86 percent were resolved with the first contact.

DC WASA is committed to deploying state-of-the-art technology to provide a higher level of service than that of its peers. Several years ago, DC WASA deployed one of the first fixed-network automated meter reading (AMR) systems in the water industry, then leveraged this technology to develop the High Use Notification Application (HUNA). This copyrighted program sends a voicemail or e-mail alert to customers who sign up for the service if their water usage tracks higher than usual, such as when a toilet, fixture, or service line leak develops. This proactive service aids in the conservation of water and provides consumers with advance notification so they can avoid a high water bill. In FY 09, HUNA alerted more than 3,000 customers of high water usage.

In FY 09, the Authority continued to expand customer conveniences with the implementation of e-Check, thereby providing another easy way for customers to pay their bills without incurring an additional charge. Also, PCI (Payment Card Industry) compliance standards were instituted to provide additional security for customers who use this feature.

Recognizing the challenges of today's economy, the DC WASA Board of Directors approved the expansion of the Customer Assistance Program. In addition to the existing water discount, income-eligible residents may now also receive a discount on sewer charges. In FY 09, \$903,915 was leveraged to provide relief to more than 6,400 customers, saving them as much as \$270 a year.

In FY 09, DC WASA's SPLASH (Serving People by Lending a Supporting Hand) program generated more than \$95,000 in contributions to assist 348 eligible customers. This program is funded solely by contributions from caring customers and the community.

Effective Communication Boosts Customer Confidence

More than 50 community meetings were held in FY 09 for business, civic and neighborhood groups on topics such as rates, construction activities, drinking water quality and water pollution control. Our staff at Blue Plains and other facilities hosted more than 50 guided tours and briefings during FY 09 for congressional staff members, foreign delegations, industry professionals, media representatives, environmental groups, teachers and students, and others.

DC WASA continues to strengthen its relationships at all levels of government and across the metropolitan Washington community. The Authority worked with legislative and regulatory bodies, and with national trade organizations—through committee participation and conference calls—on matters that could affect DC WASA, its operations and its stakeholders.

The Emergency Command Center serves as an information hub, linking DC WASA's crews, contractors, management, DDOT, DCEMA and other District agencies. Operating 24 hours a day, Command Center crews also answer emergency calls from customers and citizens (bottom center). DC WASA employees assist customers in applying for discounts on their utility bills during the annual Joint Utility Discount Day (bottom right).





The DC WASA summer interns perform community service projects throughout the District, including freshening up a dormitory at Boys Town (top left). Employees and their families and friends join in the Susan G. Komen Race for the Cure (top center). DC WASA reaches communities throughout the District, with information in diverse languages, different media and for different ages (top right).

The Authority relaunched its web site (www.dcwasa.com) in FY 09 with a complete redesign, new content, and updates to existing information. Additional improvements included an avatar-based bill tour, live video streaming of board meetings, and an Impervious Area Charge calculator.

At the second annual Latino outreach event, **For a Better Home ... For a Better Community**, DC WASA supplied more than 250 community members with information in English and Spanish on water-related issues, including water quality, water conservation, hydrant information and construction projects.

DC WASA provided lessons in Sewer Science to more than 400 District students in FY 09. An interactive model of a mini-wastewater treatment plant demonstrated the processes involved in treating wastewater and recycling it back into local rivers.

DC WASA was a participating sponsor in the **4th Annual Nation's Triathlon**, the second-largest triathlon in the country. District Mayor Adrian M. Fenty and DC WASA Board Chairman William M. Walker both competed in the event. Approximately 4,500 athletes swam in the Potomac River, made clean of floatable debris by the Authority's skimmer boats. In addition, DC WASA staff volunteers provided District tap water for thirsty athletes and hosted the aid station with the water mascot, Wayne the Water Drop.



In 2009, DC WASA began webcasting Board of Directors meetings.



An Authority That Cultivates a Culture of Volunteerism and Stewardship

In the spirit of corporate citizenship, the Authority continued an ongoing relationship with Covenant House of Washington by hiring five summer workers. Covenant House is a community youth advocacy organization that provides a variety of special services to assist young adults.

Additionally, the Authority encourages employees to be stewards in the neighborhoods in which they live and work. In FY 09, employees participated in these annual community events:

Joint Utility Discount Day—At least 100 DC WASA employees descended on the Washington Convention Center to help 6,000 District residents apply for discounts on their water, electricity, gas, and telephone bills.

Bread for the Soul—DC WASA employees donated hundreds of toys and books and \$8,845 in cash to District families living with HIV/AIDS. Food baskets were delivered to 85 families during the holiday season.

One Fund—In FY 09, DC WASA contributed \$32,256 to the District's only charitable fundraiser that supports a range of nonprofit organizations in the Washington metropolitan area.

Susan G. Komen Race for the Cure—More than 175 DC WASA employees participated in this annual fundraiser and awareness event, thus raising nearly \$4,000.

AIDS Walk Washington—DC WASA sent a team of walkers and raised donations to benefit the Whitman-Walker Clinic.

Boys Town of Washington, DC—The Authority's 2009 summer interns painted the family center interior, removed shrubs, helped with landscaping and collected trash.

The Authority sponsors school programs such as Sewer Science and an engineering club, and participates in awareness programs and water festivals (below).



operations and environmental quality

Cities across the nation are challenged with aging infrastructure in need of investment. The District of Columbia is no different. When DC WASA was established, it shored up facilities and systems that had suffered years of disinvestment. In addition, ever more stringent environmental controls, mandated by the United States Environmental Protection Agency (U.S. EPA), drive massive capital projects to the limits of technology. The capital needs are immense, and so is the competition for funding. Because all needs cannot be met at once, the Authority uses technical assessments to prioritize projects. Then the Authority plans its Capital Improvement Program on a 10-year horizon, while incorporating mandatory programs and continuing to address daily emergency repairs.

Water Services

DC WASA purchases treated tap water wholesale from the U.S. Army Corps of Engineers Washington Aqueduct. The Authority pumps this water through a complex distribution system composed of 1,300 miles of pipe (equal to the distance from the District to Houston, Texas) ranging from 4 to 78 inches in diameter, 36,000 valves, four water pumping stations, eight water storage facilities, and more than 9,000 public fire hydrants.

A safe water supply is critical to protecting public health. Without modern water systems, diseases such as cholera and dysentery would be part of everyday life, as they were

more than 100 years ago. In the United States, water utilities monitor water for more than 100 contaminants and must meet close to 90 regulations for water safety and quality. To ensure drinking water quality, DC WASA conducts hundreds of tests on more than 300 samples from the water distribution system each month, as part of both mandatory testing and voluntary programs.

In FY 09, DC WASA Water Services reached several milestones:

- The Water System Facilities Plan Update (to the original 2000 plan) was delivered in June 2009, with recommendations for future capital projects.
- The LSR (Lead Service Replacement) program was modified following an extensive policy review and public meeting/comment period. Experts from the U.S. EPA, the Centers for Disease Control, and the George Washington University Center for Public Health were consulted, as were local health officials.

The District's water distribution system is virtually lead free; however, some older service lines (the pipes from the water main in the street to the home) contain lead. These service lines generally begin in public property and end on private property. In 2003 in a multiple-year project, DC WASA set out to replace all of the known public-side lead service lines in the District. As of the end of FY 09, nearly 18,000 of the estimated 35,000 public lead lines had been replaced.

The new LSR program entails two major components. First, service line replacements will be scheduled in conjunction with routine water main replacements or rehabilitation and emergency repairs. Second, homeowners paying for private-side replacement can request that the public-side replacement be completed at the same time. DC WASA continues to encourage full replacements, although to date only about 26 percent of homeowners have chosen to replace their private-side service lines, of which only 16 percent contained lead.

The final policy was based on declining lead levels and on DC WASA's continued compliance with all Safe Drinking Water Act Lead and Copper Rule requirements



The state-of-the-art Anacostia Pumping Station, opened in 2009, is one element of an \$85 million water infrastructure program to improve service east of the Anacostia River (above). DC WASA's water quality testing includes both mandatory and voluntary components. Using the Mobile Water Quality Laboratory Van, crews can perform testing in the field as well as in the lab (bottom right).





and with the recognition that full replacements are preferable to partial replacements. The Authority continues to monitor lead levels throughout the District of Columbia.

- The Authority expanded its existing collaboration with District of Columbia Fire and Emergency Medical Services (DC Fire and EMS). The collaboration already included regular meetings to identify any concerns and strengthen the relationship. This year, the Authority provided DC Fire and EMS with water distribution system information in GIS (Graphical Information System) form for firefighters to use on their mobile laptop units in the field. In addition, the Authority developed a training program on the water distribution system for DC Fire and EMS's battalion chiefs and their supporting staff members.

The Authority surpassed the 2007 Memorandum of Understanding goal to upgrade 3,500 hydrants to the national standard nozzle within the first five years—accomplishing this goal in less than two years.

The Authority accelerated the pace of the program by adding dedicated fire hydrant maintenance crews. In FY 09, DC WASA replaced 904 hydrants and repaired or performed maintenance on 7,321 of the more than 9,000 public hydrants. This is a continuing process, and our goal is to have fewer than 1 percent of hydrants out of service at any time.

- DC WASA completed construction of—and placed into service—the state-of-the-art Anacostia Water Pumping Station and continued planning for an elevated water storage tower to be located at the St. Elizabeth's Campus, all as part of \$85 million in infrastructure improvements east of the Anacostia River to improve service to the area in the coming years.
- Design was completed for the \$16 million small-diameter water main program projects scheduled to begin construction in FY 10.

Water main and valve replacements are critical to improving the water distribution system (left).

Sewer Services

The Authority maintains and installs the myriad pipes, gates, valves, and sewer pumping stations that convey sanitary sewage from the District to Blue Plains to be treated. There are approximately 1,800 miles (roughly the distance from the District to Albuquerque, New Mexico) of sanitary and combined sewers, ranging in size from 8-inch pipelines to 27-foot arches. In addition, there are 22 flow-metering stations and nine wastewater pumping stations. The Authority is also responsible for the operation and maintenance of 16 stormwater-pumping stations in the city.

Sewer system assessment is completed and recommendations are delivered

In June 2009, the Authority completed a five-year assessment of the sewer system, which involved a sewer inspection and condition assessment, development of a GIS database to record precise locations and other information of sewer assets, and hydraulic modeling to gauge the system's capacity. Resulting from the study were recommendations for new sewer improvements and an annual sewer inspection program to alert the Authority to immediate needs for repair or replacement. This program would ensure that each section of sewer is inspected once every 25 years, with some critical areas on a 10-year cycle. When the recommendations are fully implemented, the additional cost will be more than \$37 million annually.

Potomac Interceptor Odor Control project moves forward

In FY 09, new life was breathed into the Potomac Interceptor Odor Control project. The Potomac Interceptor (PI) is a 50-mile-long interceptor sewer that conveys wastewater from jurisdictions in Maryland and Virginia, including Dulles International Airport, to Blue Plains. The sewer is vented to allow gases to escape—otherwise, the flow would be restricted by air pockets trapped in the sewer. The Authority began plans years ago to build scrubbing facilities to eliminate odors; \$13 million was allocated for the projects, but the plans were delayed by the permit process of the numerous landowners. These owners include states, the National Park Service and other agencies in different jurisdictions, and crossing their lands requires nearly 40 permits. In FY 09, the Authority submitted all necessary permit



The Authority's sewer investigation team troubleshoots sewer blockages with camera-mounted, remote-controlled robots that send back live footage of sewer interiors.

applications for Maryland and the District. Construction on these facilities should begin in 2010. The Virginia projects are still in the permitting process. Meanwhile, the Authority implements interim odor controls such as chemical injection, carbon filters and gel neutralizing agents.

Following are FY 09 highlights for several other sewer projects:

- Before the sewer system assessment, the Authority aimed to replace 300 sewer laterals (pipes connecting plumbing from homes or businesses to the sewers in the street) in an average year. In FY 09, with an additional contract, the Authority accelerated replacement of laterals and completed 750.
- DC WASA completed design and began construction of sewer separation projects in Rock Creek and in historic Anacostia neighborhoods. In tandem, the Authority also conducted outreach programs and secured permission from more than 40 property owners in Anacostia—enough of a reduction in stormwater input to the sanitary system to produce a significant environmental benefit and to meet the requirements of the 2005 consent decree.
- The Authority began construction to rehabilitate 23,000 linear feet (equivalent to the height of 41 Washington



Monuments) of outfall sewers that travel from the Main Pumping Station to Blue Plains. Some of the large-diameter combined sewers were constructed before Blue Plains was built, which was in 1938. Most are between 30 and 80 years old.

- DC WASA completed \$6 million in upgrades to the Rock Creek Pumping Station with a new electrical system, new pumps and valve replacements.

Wastewater Treatment and Water Pollution Control

The Blue Plains Advanced Wastewater Treatment Plant treats an average of 370 million gallons of wastewater per day (MGD) and has a peak capacity of more than 1 billion gallons per day. Blue Plains serves District retail customers and provides wholesale services to jurisdictions in Maryland and Virginia.

Sustainability exists in wastewater treatment

At Blue Plains, wastewater treatment goes beyond primary and secondary treatments, to tertiary (or advanced) treatment. The effluent that leaves Blue Plains and is discharged into the Potomac at the southernmost tip of the District is highly treated and meets some of the most stringent National Pollutant Discharge Elimination System (NPDES) standards in the United States. Further, the biosolids left over after the treatment process are applied to land areas in need of nutrients for restoration, such as forests, farms and grasslands.

Sewer Services crews clean catch basins year-round to keep debris from reaching local waterways and to prevent stormwater from backing up onto roadways.



The Authority works to protect the Chesapeake Bay

Historically, wastewater treatment plants have contributed nutrients such as phosphorous and nitrogen to the waterways in which they discharge. These nutrients have been found to deplete oxygen in the marine environment, a process that is detrimental to fish and other aquatic life.

Since the mid-1980s, Blue Plains has reduced phosphorous to the limit of technology, primarily in support of water quality goals of the Potomac River, but also for the restoration of the Chesapeake Bay.

The Chesapeake Bay Agreement, reached in 1987, was a first step in reducing nitrogen discharge to waterways that are tributary to the Chesapeake Bay. Under the agreement, the Bay states and the District committed to voluntarily reduce nitrogen loads by 40 percent from their 1985 loads. Blue Plains was the first to achieve that goal. Furthermore, in every year since the full-scale implementation of the Biological Nitrogen Removal (BNR) process was completed in 2000, Blue Plains has every year successfully achieved and exceeded that goal of a 40 percent reduction. In FY 09, the BNR process at Blue Plains reduced the nitrogen load by more than 58 percent.

Recently, environmentalists have called for further reduction of nutrients discharged to the Bay in order to meet water quality standards and to protect living resources. While the Chesapeake Bay Program is in the process of establishing a total maximum daily load (TMDL) that would protect the Bay, DC WASA is in the process of entering an agreement with the U.S. EPA, under

the Authority's NPDES permit, to further reduce nitrogen from Blue Plains effluent using enhanced nitrogen removal (ENR) technology. The total cost of the project is nearly \$1 billion.

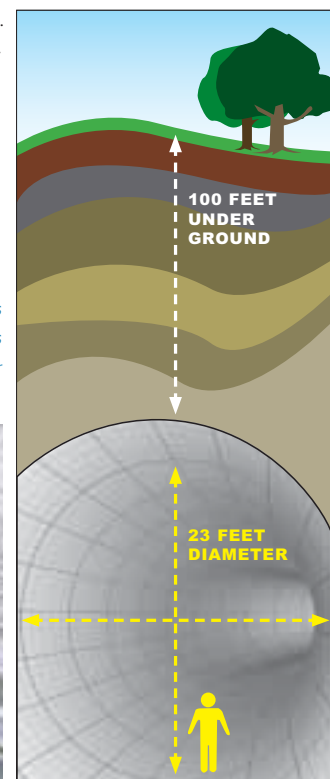
DC WASA activates wastewater plant projects

In FY 09, the Authority rehabilitated pumping equipment and accessories in one of two stations that pump incoming wastewater into the plant and also replaced aged infrastructure and equipment in the plant's final filters with a more effective system. All the upgrade projects were tied into the plant-wide process control system (PCS), which monitors and controls the plant's processes from a central location.

Significant progress was achieved in implementing the nitrification/denitrification facilities upgrade to convert nitrification reactors from coarse to fine bubble diffusion and to modify structures and equipment. The rehabilitated and new equipment will support other ongoing upgrades to the nitrification/denitrification process, making it possible to more reliably meet the nitrogen reduction goals of the Chesapeake Bay Program. It will also increase energy efficiency.

Sustainability is a high priority now and into the future

DC WASA explores ways in which plant operations can be more sustainable. During FY 09, the Authority investigated the use of a thermal hydrolysis process with anaerobic digestion to



The Combined Sewer Overflow Long Term Control Plan tunnel system will be deeper than Metro's tunnels and just as wide (right). The first part of the CSO Long Term Control Plan called for tide gates, new screens and inflatable dams at CSO outfalls. These measures, completed in 2009, have reduced combined sewer overflows by nearly 40 percent already (bottom center).





The Authority operates two skimmer boats that remove floatable debris from the Anacostia and Potomac rivers—up to 120 tons per month.

advance a Biosolids Management Plan for Blue Plains. The byproduct of anaerobic digestion, methane gas, may be used to generate power for the plant. This approach may reduce the need for power from external sources by up to a third, thereby reducing expenditures on power while reducing greenhouse gas emissions from the treatment processes. This process also would reduce the amount of solids hauled away daily, thereby reducing the impact of Blue Plains processes on daily carbon emissions.

Plan will control combined sewer overflows (CSOs)

In 2009, DC WASA filled the position of director for the Long Term Control Plan, approved staff positions for the department, advanced the environmental assessment process, and began preliminary designs for this large-scale project.

In the District of Columbia, as in hundreds of older U.S. cities, a combined sewer system covers a portion of the city—about a third of the land area. Both the sanitary sewer and the stormwater runoff from pavement and rooftops are collected in the same pipe, to be carried to Blue Plains for treatment. In dry



weather, the combined sewer system functions well, but during heavy rain events, the amount of combined sewer overwhelms the system. To prevent the combined sewer from backing up into buildings and onto streets, the system was designed to overflow into the Anacostia and Potomac rivers and into Rock Creek. Those overflows may contain bacteria, chemicals and debris, which can cause water pollution problems.

In 2005, DC WASA entered a consent decree with the U.S. Department of Justice, the U.S. EPA, and the District of Columbia, calling for the Authority to complete a Combined Sewer Overflow Long Term Control Plan over a 20-year period. The initial portions of the plan, smaller projects called the Nine Minimum Controls, have already resulted in a nearly 40 percent reduction in CSOs.

The benefits of the 20-year plan are significant. When it is fully implemented, CSOs will be reduced by a projected 96 percent overall and by 98 percent on the Anacostia River alone. This change will significantly improve water quality and will reduce the amount of locally generated debris from the combined sewer system in local waterways.

In FY 09, DC WASA proceeded with preliminary designs, as outlined next.

Combined Sewer Overflow Control

Massive storage tunnels will contain excess water during heavy rains. With the smaller projects complete, the Authority is focusing on the largest part of the solution: the complex underground tunnel system that will store combined sanitary sewage and storm water during intense rain events. The overflow would be conveyed later to Blue Plains for treatment. Three major tunnel projects will link together to form the system.

- During FY 09, the Authority initiated the design of the southernmost section, the Blue Plains Tunnel, which will begin on the grounds of the plant. In addition to providing a starting point for the tunnel, the cleared

area will eventually facilitate other CSO-related projects such as a large pump station and a new CSO treatment facility.

- The tunnels will be 23 feet in diameter, comparable to the size of the District's Metro tunnels, and will be placed approximately 100 feet underground, which is deeper than the Metro tunnels.

Tunnel construction will begin with the section closest to Blue Plains, so that tunnel sections can be placed into operation as soon as they are completed. The District's waterways will benefit from the reduction of CSOs in these three stages before the entire project is completed in 2025.



The Blue Plains plant is located at the southernmost tip of the District of Columbia and covers more than 150 acres.



organizational effectiveness



Forward-thinking, high-performing teams are critical for the 24/7 delivery of water, sewer and wastewater services. Leveraging technology to integrate people and processes; recruiting and retaining the best personnel; and investing in their training, wellness and safety are imperative to building the next-generation water and sewer utility.

World-Class Leadership in Technology

The Information Technology (IT) Department builds a smarter Authority by better integrating people and processes through technology and by creating new business value with innovative solutions. DC WASA is leading the water utility industry in intelligent business applications, with its in-house development teams that integrate existing carrier solutions with DC WASA applications.

The Authority regularly garners national and global recognition for its first-of-its-kind technology solutions, and it collaborates with industry giants. For instance, the IBM Corporation engaged the Authority as the model water utility for its Smarter Cities effort. The two companies are developing a joint research project using predictive analytics and are seeking insights through technology to help create business value through better customer service, improved preventive maintenance of assets and reduced costs. The results will be used by IBM to develop technology for its Smarter Cities program.

In another testament, IDG Publishing and CIO Magazine named DC WASA and Chief Information Officer Mujib U. Lodhi to the **CIO Top 100** for the second straight year. The award recognizes organizations that exemplify the highest level of operational and strategic excellence in information technology.

Here are a few FY 09 highlights from the IT Department:

GIS enables quick access to critical data

In recent years, DC WASA has converted paper maps of the water distribution network into digital data. In FY 09, this data gave employees the ability to look up information online to find the exact location and details of infrastructure. Preparing this asset inventory and system map is a U.S. EPA–recommended best practice for asset management for water utilities.

Technology allows customers to calculate Impervious Area Charge (IAC)

To support the implementation of the IAC, the IT Department created the programming required to determine the amount of impervious area on individual properties and a calculator function for the web site.

Technology supports knowledge capture

In light of an aging workforce, DC WASA recently launched an initiative to manage documents and capture knowledge. The implementation of **KnowledgeLink** continued in FY 09 with the addition of searchable online libraries that enable quick and easy search and retrieval of records—while protecting the safety, security and integrity of the documents.

SCADA offers secure monitoring of data

In FY 09, the Authority deployed a state-of-the-art Supervisory Control and Data Acquisition (SCADA) solution for real-time transmission of command and control data. The Authority can control and monitor all remote nodes without compromising security.

Summer interns learn about the industry and the environment through educational programs (opposite page). Information Technology drives process improvements enterprise-wide (bottom left). Automated wastewater treatment processes are tied into the Blue Plains Central Control Room for real-time monitoring (bottom center). Mujib Lodhi was named to the elite CIO 100 (bottom right).





Year-round health offerings to employees include screenings, information sessions and health fairs (left). DC WASA conducts comprehensive safety trainings and programs, including an annual in-house Safety Day, attended by hundreds of employees (center). The Authority conducts more than 200 trainings per year, for technical skills, safety, policy and procedure and personal development (right).

Investments in the Authority's Most Valuable Assets

DC WASA is dedicated to building a high-performing workforce and becoming recognized as one of the best places to work. The training, benefits, recognition, and wellness programs available to employees in FY 09 demonstrate the Authority's commitment to its staff.

Highlights of training initiatives in FY 09 included the following:

- A \$2 million investment for skills training programs in safety, technology, government regulations, and professional and career development.
- Certification training in the Maintenance Department.
- Refresher training on Authority policies for a safe and secure work environment.
- Wastewater Treatment Operator Trainee and Engineering Management Training Programs that help DC WASA develop a pool of candidates for hard-to-fill positions and expand the diversity of candidates in supervisory positions.
- Continued development of a succession planning and executive development program that will ensure top management and technical talent is in place for all key positions.
- Launch of a certification program, which focuses on the pumping branches, for DC WASA's Water Distribution and Collections Systems departments.

- Continued offerings in basic skills and technical training classes, as well as an adult literacy program titled *WASA Reads*.
- Introduction of two new courses: *Ethics for Employees and Electronic Media* and *Risks, Rules, and Regulations for Senior Staff, Managers and Supervisors*.

Branding recruits the best talent

In FY 09, the Human Resources Department branded DC WASA to provide a consistent look and feel in recruitment and retention materials and to ensure that prospective employees understand the Authority's values, culture and commitment to customer service.

Technology-enabled processes streamline human resources

In FY 09, DC WASA streamlined the recruitment process with e-Recruiter, an application to manage the entire process from requisitioning position approval to managing the new hire's first day on the job. Managers can easily track the status of requisitions, open positions, and applicants, thereby streamlining interaction between departments.

DC WASA's web-based performance management system for union and non-union employees continued to improve the value of the performance evaluation process for managers and employees. In addition, the self-managed career development program was enhanced to include a more robust web site, additional workshops, and new online assessments.

Summer internships build careers for the next generation

In FY 09, there were 58 interns from 34 colleges and universities and 19 countries who gained valuable work experience in DC WASA's Summer Internship Program. The students worked on a variety of assignments in engineering, computer science, biology, law, finance and business. They also participated in professional development and community service projects.

Employee benefits better serve staff members and their families

In keeping with a desire to provide benefits that are competitive with other employers in the region and that encourage a healthy lifestyle, DC WASA provides wellness seminars and screenings at many work locations. In FY 09, the wellness calendar included seminars on diabetes, on stress management, and on ensuring a healthy heart, as well as blood pressure and cholesterol screenings and flu shots. To promote fairness and to recognize the diverse needs of its employees, the Board of Directors voted in FY 09 to extend spousal benefits to domestic partners, effective in 2010.

Labor management partnerships increase productivity

DC WASA's labor-management partnerships improved productivity and developed on-the-job, multiple-skills training meetings. Those meetings enabled workers and management to solve problems as they arose.

Administrative professionals demonstrate "Excellence in Action"

DC WASA hosted its 5th Annual Administrative Professionals' Conference titled "Excellence in Action," which included professional and personal development activities and a presentation of the annual *Administrative Professional of the Year* awards.

Safety Takes Priority in the Workplace

Lost work-time accidents and preventable vehicle accidents decreased in FY 09 over FY 08. The number of lost work days also declined. DC WASA created a thorough training program for crane operators and dramatically improved crane inspections.

"Under the guidance of the Board of Directors' Strategic Plan, we have risen to a position of absolute leadership among public utilities in the creative use and application of IT, and we leverage this investment to dramatically improve customer service and organizational performance."

*- Mujib U. Lodhi
Chief Information Officer*

Fleet Management Saves Money and Improves the Environment

DC WASA's fleet of 540 vehicles includes all types—heavy duty trucks, four-door sedans, construction equipment, skimmer boats, golf carts, and more—all necessary for the Authority's construction-intensive work. In FY 09, to optimize fuel efficiency, the Authority installed automatic fuel-tracking computers in 96 percent of the fleet. Fueling rings were also installed in those vehicles to enable the use of alternative fuels such as E85 or natural gas. Additionally, gasoline-powered carts and a vehicle were replaced with zero-emission electric vehicles where possible, and full-size vehicles were replaced with smaller, more fuel-efficient ones.

Launch of Renewed Internal Recycling Program

DC WASA ramped up its recycling program in FY 09 with a new recycling company, new containers at all facilities, kickoff events, training and a recognition program. The new company will measure the Authority's recycling effectiveness. DC WASA recycles plastic, glass, paper, cardboard, batteries, toner cartridges and metal (in the metal shop).



industry and environmental research

DC WASA protects the environment and optimizes operations with cutting-edge research and planning

By collaborating with national foundations, universities and industry colleagues, DC WASA expands its research and planning capabilities in wastewater treatment, biosolids management and drinking water quality. Those partnerships foster peer-reviewed research and contribute to the development of the next generation of wastewater treatment engineers and environmental scientists. The projects are designed to answer operational questions, to protect the environment, and to improve or develop new processes that meet current and future needs.

Doctoral and master's degree candidates from all over the world come to Blue Plains to conduct research, thus enhancing DC WASA's high-caliber team of researchers. The Authority also partners with industry experts, including the Water Environment Research Foundation, in conducting cutting-edge research.

Wastewater Treatment Research

Following are highlights of wastewater treatment research in FY 09:

- DC WASA, in collaboration with the George Washington University, developed growth rates for microorganisms using methanol, which is the carbon source used at Blue Plains for denitrification. This project was completed in FY 09 with the publishing of a peer-reviewed paper, which is now much referenced and is used in commercial software for process design. The data have resulted in more optimal use of existing land at the plant facility.
- The Authority is collaborating with the University of Innsbruck in Austria to treat high-strength nitrogen residuals from anaerobic digestion. This experimental process uses less energy and less carbon, all in a smaller tank. The data gathered will be used for future process design.
- DC WASA, Virginia Polytechnic Institute and State University (Virginia Tech), Bucknell University, and the George Washington University came together to configure a design for anaerobic digestion. The proposed configuration—using high-temperature thermal hydrolysis—uses a smaller amount of tank space and thus lowers costs while producing disinfected biosolids that have low odor characteristics. These biosolids can be recycled for beneficial reuse.

Biosolids Research

Research has focused on efforts that simultaneously promote beneficial reuse of biosolids while addressing public concerns.

- DC WASA is sponsoring drought resistance research at Virginia Tech that demonstrates how microbes in the wastewater treatment process produce naturally-occurring essential plant hormones, which are needed by plants to survive stressful conditions. As a result of this research, farmers using biosolids will be able to survive drought years better than those who use inorganic fertilizers.
- In an effort to reduce the odor of the biosolids product for land application, DC WASA and the University of Maryland researchers developed methods to predict and prevent odors at the source. After biosolids were applied, odor complaints from the public were studied and linked with the specific practices for specific batches of biosolids. Researchers were then able to determine which processes back at the plant were causing more or less odor and then adjusted the processes accordingly.
- To reclaim gravel mines, return carbon to the earth, and grow green fuel, DC WASA worked with Virginia Tech and the University of Maryland to plant fast-growing poplar trees in biosolids-amended soils.
- DC WASA sponsors research at Virginia Tech related to carbon sequestration—a technique for long-term storage of carbon for the mitigation of climate change. Peer-reviewed papers from this research show that carbon is permanently sequestered (stored, not released) when biosolids are applied to typical agricultural soils.

- DC WASA works collaboratively with the U.S. Department of Agriculture and University of Maryland researchers to examine the transport and fate of organic microconstituents in biosolids. The researchers are examining antimicrobials and flame retardants and their movement from land-applied biosolids so researchers can expand the knowledge base for future risk models.

Water Quality Division Research

In addition, DC WASA's Water Quality Division performs research and engages in partnerships to further the research body of knowledge on water distribution systems and water quality. Following are FY 09 highlights:

- DC WASA researchers completed a year-long study of galvanic corrosion on lead, copper and bronze pipes when chemical disinfectants are changed. Those findings will aid utilities in avoiding unintended consequences of metal release.
- DC WASA researchers completed a study to identify and characterize the relationship between lead and iron released from galvanized plumbing in District homes. The study determined that in-home plumbing, specifically galvanized pipes, can contribute lead to drinking water and should be considered as important a lead source as the lead service lines themselves. This finding may benefit residents nationwide in helping further reduce lead levels in drinking water. A peer-reviewed article to be published in a technical journal is scheduled for FY 10.
- DC WASA is an active participant in Water Research Foundation (formerly AwwaRF) projects to ensure the provision of safe and affordable drinking water.



DC WASA's Blue Plains facility meets some of the most stringent permit requirements in the nation and continues to meet all requirements of the Chesapeake Bay Agreement.

awards and recognition

DC WASA's Eighth Gold Peak Performance Award

The Authority received the prestigious **Gold Peak Performance Award**, recognizing the Blue Plains Advanced Wastewater Treatment Plant's compliance record. Presented by the National Association of Clean Water Agencies (NACWA), the award honors 100 percent compliance with federal National Pollutant Discharge Elimination System (NPDES) permits for an entire calendar year.

CIO Top 100 Award for Innovative Technology

DC WASA and CIO Mujib U. Lodhi received the **CIO Top 100** award from *CIO* magazine for exemplifying the highest level of operational and strategic excellence in information technology. This was the second consecutive year that the Authority made the elite list—this year for a new infrastructure to enable a much more proactive approach to business functions such as asset management and power usage planning.

Anacostia Watershed Society Award for Environmental Protection

Former General Manager Jerry N. Johnson was honored by the Anacostia Watershed Society for his leadership in reducing wet weather overflows in the Anacostia River from the District's combined sewer system.

Grand Award for Wet Weather Plan

The American Council of Engineering Companies of Metropolitan Washington selected the Blue Plains Total Nitrogen Removal/Wet Weather Plan as the **Grand Award Winner** in the non-design category for the 2008–2009 Engineering Excellence Awards. The judges were impressed with the “solutions that were reached to counter the site constraints and the multiple innovative processes and technologies that were introduced in the project.” The contractors working with DC WASA on the project were Metcalf & Eddy, Inc./AECOM.

GFOA Awards for Finance and Budget Excellence

The Government Finance Officers Association (GFOA) recognized DC WASA with the following two awards this year:

- For the 9th straight year, DC WASA received the **Distinguished Budget Presentation Award** for the Authority's 2008 Budget Book. The GFOA budget award “reflects the commitment of [DC WASA's] governing body and staff to meeting the highest principles of governmental budgeting.”
- The Authority garnered its 12th **Certificate of Achievement for Excellence in Financial Reporting** for the FY 08 CAFR (Comprehensive Annual Financial Report), for DC WASA's development of financial reports that evidence the spirit of transparency and full disclosure.

Environmental Protection
Innovative
Gold Peak Performance
Wet
Excellence Creative
Research and

National Environmental Achievement Awards for Research and Communication

NACWA recognized the Authority with two awards in addition to the Gold Peak Performance Award:

- DC WASA received **NACWA's Research and Technology Award** for collaboration with the Alexandria Sanitation Authority on a project to enhance nitrogen removal and increase sustainability with innovative sidestream treatment.
- DC WASA was honored with **NACWA's Public Information and Education Award** for its public information and outreach efforts as part of the Virginia Biosolids Council. The award recognizes inventive efforts to educate the public on the effects of wastewater treatment and pollution control on the environment.

ESRI Special Achievement in GIS Award

DC WASA was awarded a **Special Achievement in GIS Award** by ESRI, a GIS developer, for its innovative use of GIS technology to manage data on public fire hydrants.

Employer Support Award for DC WASA

- The **Above and Beyond Award** from the Employer Support of the Guard and Reserve was presented to DC WASA for its continued commitment to protecting the rights of veterans, reservists and National Guard members.

2009 Marcom Creative Gold Award for 2008 Annual Report

- The DC WASA 2008 Annual Report garnered the **Gold Industry Award** by the Association of Marketing and Communications Professionals for concept, design and copywriting.



finance and budget*

Total Revenues

Total revenues (including federal grants and contributions) were \$362.4 million in FY 09, a decrease of \$15.7 million, or 4.2 percent, over FY 08. This change is primarily the result of decreases of \$14.5 million from federal grants and \$11.3 million in interest income. These decreases were offset by an increase of \$10.1 million in retail customers and wholesale wastewater treatment charges.

Diversity and Stability of Operating Revenues

The Authority's operating revenue base is very diverse. It includes established customers such as the Federal Government, the District Government, the surrounding jurisdictions in Maryland and Virginia, and the commercial and residential customers within the District. In FY 09, the revenue base was further diversified with the addition of the impervious area surface charge, which added District property owners, some of whom were not previously water and sewer customers.

Expenses

Operating expenses increased by \$11.9 million, or 4.2 percent, in FY 09, primarily because of a \$6.4 million increase in personnel services; a \$6.2 million increase in contractual services and a \$4.9 million increase in depreciation expense. These increases were offset by a decrease of \$5.0 million in utilities and rent.

Utility Plant

At the end of FY 09, the Authority had \$2.6 billion invested in a wide range of capital assets (utility plant), including wastewater collection, wastewater treatment, and water distribution systems. This amount represents a net increase of nearly \$201.9 million, or 8.5 percent, over the past year. This growth in capital assets is the result of continued capital spending in accordance with the capital improvement program.

In spite of the challenges of an economic recession, the Authority continued its strong financial performance in Fiscal Year 2009, in large part due to our adherence to strong fiscal policies and long term outlook. In FY 09, we maintained strong operating cash reserves; reduced outstanding customer receivables; launched a new rate structure; and, completed a water and sewer system facility master plan that assessed our underground infrastructure and will shape our future capital investments.

—Olu Adebo
Chief Financial Officer



*Source: DC WASA Comprehensive Annual Financial Report—Fiscal Year 2009

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Independent Auditor's Report

Board of Directors
District of Columbia Water and Sewer Authority:

We have audited the accompanying statements of net assets of the District of Columbia Water and Sewer Authority (the Authority), a component unit of the District of Columbia as of September 30, 2009 and 2008, and the related statements of revenues, expenses and change in net assets and cash flows for the years then ended. These financial statements are the responsibility of the Authority's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Authority as of September 30, 2009 and 2008, and changes in its financial position and cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

Washington, DC
December 16, 2009

Thompson, Cobb, Bazilio & Associates, PC

Finance and Budget

Statements of Net Assets

SEPTEMBER 30, 2009 AND 2008 (IN THOUSANDS)

ASSETS	2009	2008
Current assets:		
Cash and cash equivalents	\$ 75,123	\$ 89,614
Investments	90,982	99,438
Customer receivables, net of allowance for doubtful accounts of \$9,936 in 2009 and \$7,885 in 2008	37,624	33,323
Due from Federal government	69,857	91,418
Due from District government	3,213	4,662
Due from other jurisdictions	28,617	15,525
Due from Storm Water Fund	—	189
Inventory	9,369	8,187
Prepaid assets	588	576
Total current assets	315,373	342,932
Noncurrent assets:		
Restricted assets:		
Cash and cash equivalents	247,327	87,336
Investments	29,975	39,762
Total restricted cash equivalents and investments	277,302	127,098
Utility plant:		
In-service	3,038,807	2,789,181
Less accumulated depreciation	(858,964)	(804,729)
Net utility plant in service	2,179,843	1,984,452
Construction-in-progress	400,826	394,332
Net utility plant	2,580,669	2,378,784
Other noncurrent assets:		
Due from other jurisdictions, net of allowance for doubtful accounts of \$614 in 2009 and \$325 in 2008	9,800	8,542
Purchased capacity, net of accumulated amortization of \$51,198 in 2009 and \$47,475 in 2008	189,262	151,461
Total other noncurrent assets	199,062	160,003
Total noncurrent assets	3,057,033	2,665,885
Total assets	3,372,406	3,008,817
LIABILITIES		
Current liabilities:		
Accounts payable and accrued expenses	92,570	80,292
Compensation payable	13,316	12,160
Accrued interest	32,700	24,056
Due to jurisdictions	6,160	4,283
Due to Storm Water Fund	64	—
Deferred revenue	25,940	22,243
Commercial paper note payable	29,200	44,000
Current maturities of long-term debt	13,846	14,002
Total current liabilities	213,796	201,036
Noncurrent liabilities:		
Deferred revenue	806,990	746,928
Deferred revenue - combined sewer overflow	58,789	51,099
Other liabilities	20,795	20,485
Long-term debt excluding current maturities	1,252,778	968,522
Total noncurrent liabilities	2,139,352	1,787,034
Total liabilities	2,353,148	1,988,070
NET ASSETS		
Invested in utility plant, net of related debt	806,276	764,291
Restricted for:		
Debt service	33,743	32,122
Capital projects	10,967	10,199
Unrestricted	168,272	214,135
Total net assets	\$ 1,019,258	\$ 1,020,747

Statements of Revenues, Expenses and Change in Net Assets

YEARS ENDED SEPTEMBER 30, 2009 AND 2008 (IN THOUSANDS)

	2009	2008
Operating revenues:		
Water and wastewater user charges:		
Residential, commercial and multi-family customers	\$ 191,543	\$ 183,553
Federal Government	35,195	35,888
District Government and D.C. Housing Authority	16,804	16,193
Charges for wholesale wastewater treatment	85,519	82,854
Other	3,337	3,846
Total operating revenues	332,398	322,334
Operating expenses:		
Personnel services	82,248	75,838
Contractual services	61,277	55,127
Chemicals, supplies and small equipment	29,074	28,816
Utilities and rent	32,813	37,843
Depreciation and amortization	59,291	54,418
Water purchases	25,371	25,746
Other	3,236	3,603
Total operating expenses	293,310	281,391
Operating income	39,088	40,943
Non-operating income (expenses):		
Interest income	2,285	13,573
Payment in Lieu of Taxes (PILOT) and Right-of-Way fee*	(19,183)	(17,525)
Interest expense and fiscal charges	(51,431)	(39,342)
Total non-operating revenues (expenses)	(68,329)	(43,294)
Income before Federal grants and contributions	(29,241)	(2,351)
Federal grants and contributions	27,752	42,208
Change in net assets	(1,489)	39,857
Net assets, beginning of year	1,020,747	980,890
Net assets, beginning of year	\$ 1,019,258	\$ 1,020,747

*Payment in Lieu of Taxes (PILOT) and Right-of-Way fees are charged to DC WASA by the District Government, and are passed through as separate line items on the DC WASA bill.



Finance and Budget

Statements of Cash Flows

YEARS ENDED SEPTEMBER 30, 2009 AND 2008 (IN THOUSANDS)

	2009	2008
Cash flows from operating activities:		
Cash received from customers	\$ 317,778	\$ 305,338
Cash paid to suppliers for goods and services	(150,125)	(154,999)
Cash paid to employees for services	(80,956)	(75,017)
Net cash provided by operating activities	86,697	75,322
Cash flows from capital and related financing activities:		
Proceeds from issuance of revenue bonds	299,034	296,119
Proceeds from issuance of commercial paper	50,000	44,000
Repayments of commercial paper	(64,800)	—
Proceeds from other jurisdictions	62,138	61,454
Repayments of bond principal and notes payable to Federal and District governments	(13,714)	(367,956)
Acquisition of utility plant and purchased capacity	(256,652)	(304,754)
Payments of interest and fiscal charges	(54,102)	(46,604)
Contributions of capital from Federal government	33,656	35,106
Net cash provided by (used in) capital and related financing activities	55,560	(282,635)
Cash flows from non-capital financing activities:		
Transfers out (Payment in Lieu of Taxes and Right-of-Way fee)	(17,514)	(17,525)
Net cash used by non-capital financing activities	(17,514)	(17,525)
Cash flows from investing activities:		
Cash received for interest	2,518	15,164
Investment purchases	(320,452)	(416,861)
Investment maturities	338,691	327,045
Net cash provided by (used in) investing activities	20,757	(74,652)
Net increase (decrease) in cash and cash equivalents	145,500	(299,490)
Cash and cash equivalents (including restricted) at beginning of year	176,950	476,440
Cash and cash equivalents (including restricted) at end of year	\$ 322,450	\$ 176,950
Operating income	\$ 39,088	\$ 40,943
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation and amortization	59,291	54,418
Change in operating assets and liabilities:		
(Increase) decrease in customer and other receivables	(4,760)	3,929
Increase in inventory	(1,194)	(1,225)
Increase (decrease) in payables and accrued liabilities	5,819	(5,463)
Decrease in deferred revenue	(11,547)	(17,280)
Net cash provided by operating activities	\$ 86,697	\$ 75,322



Change in Net Assets Fiscal Years 2002-2009

(IN THOUSANDS)

	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Revenues								
Operating Revenues:								
Residential, commercial and multi-family customers	\$148,134	\$147,870	\$159,165	\$166,045	\$174,159	\$182,327	\$183,553	\$191,543
Federal government	28,501	26,884	26,444	24,770	31,100	30,751	35,888	35,195
District government and DC Housing Authority	16,496	16,072	15,464	15,436	16,463	17,266	16,193	16,804
Charges for wholesale wastewater treatment	53,211	61,682	60,834	62,126	67,966	73,378	82,854	85,519
Other	2,387	3,287	2,427	4,366	3,845	2,735	3,846	3,337
Total Operating Revenues	248,729	255,795	264,334	272,743	293,533	306,457	322,334	332,398
Non-operating revenues:								
Interest income	6,825	3,090	3,472	12,612	16,091	20,239	13,573	2,285
Total Revenues	255,554	258,885	267,806	285,355	309,624	326,696	335,907	334,683
Expenses:								
Operating expenses:								
Personnel services	62,162	64,091	62,449	64,038	66,942	70,956	75,838	82,248
Contractual services	59,166	63,065	61,491	54,156	49,970	52,116	55,127	61,277
Chemicals, supplies and small equipment	13,683	14,768	17,384	22,062	23,482	24,510	28,816	29,074
Utilities and rent	20,071	20,804	22,217	25,562	31,151	32,238	37,843	32,813
Depreciation and amortization	37,099	39,524	40,500	41,069	44,149	49,355	54,418	59,291
Water purchases	16,904	13,723	20,692	19,625	22,745	24,042	25,746	25,371
Other	-	-	3,955	3,679	4,218	4,452	3,603	3,236
Total operating expenses	209,085	215,975	228,688	230,191	242,657	257,669	281,391	293,310
Non-operating expenses								
Interest expense and fiscal charges	16,339	17,816	26,060	25,415	20,881	30,524	39,342	51,431
Payment in Lieu of Taxes and Right of Way fees	15,247	15,513	15,778	16,307	16,923	17,514	17,525	19,183
Total non-operating expenses	31,586	33,329	41,838	41,722	37,804	48,038	56,867	70,614
Total expenses	240,671	249,304	270,526	271,913	280,461	305,707	338,258	363,924
Income before Federal grants and contributions	14,883	9,581	(2,720)	13,442	29,163	20,989	(2,351)	(29,241)
Federal grants and contributions	18,848	39,626	31,455	34,578	24,927	25,083	42,208	27,752
Change in net assets	33,731	49,207	28,735	48,020	54,090	46,072	39,857	(1,489)
Net assets, beginning of year	721,035	754,766	803,973	832,708	880,728	934,818	980,890	1,020,747
Net assets, end of year	\$754,766	\$803,973	\$832,708	\$880,728	\$934,818	\$980,890	\$1,020,747	\$1,019,258

Finance and Budget

Capital Disbursements (Fiscal Years 2000-2009)



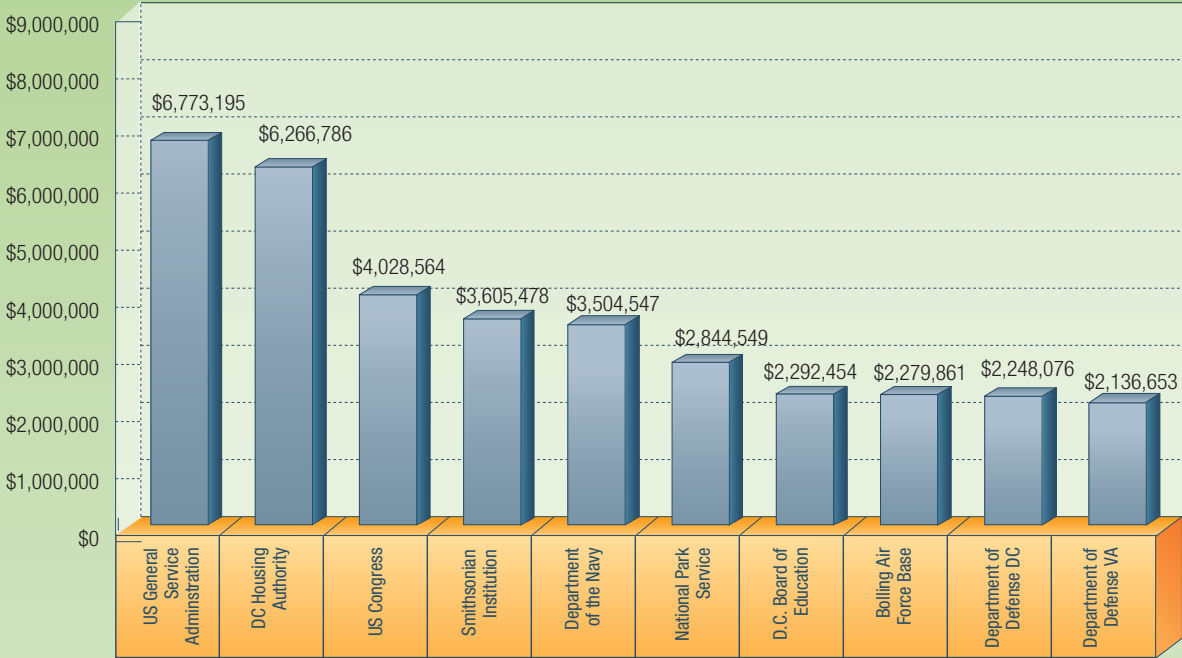
Source: DC Water and Sewer Authority Department of Customer Service



TYPE OF ACCOUNTS	FY2009
Retail Accounts	
Residential	103,665
Commercial ^(A)	19,060
Governmental	
Federal	540
District of Columbia	606
DC Housing Authority	1,220
Total Retail Accounts	125,091
DC WASA	30
Washington Aqueduct	2
Wholesale	7
Total Number of Accounts	125,130

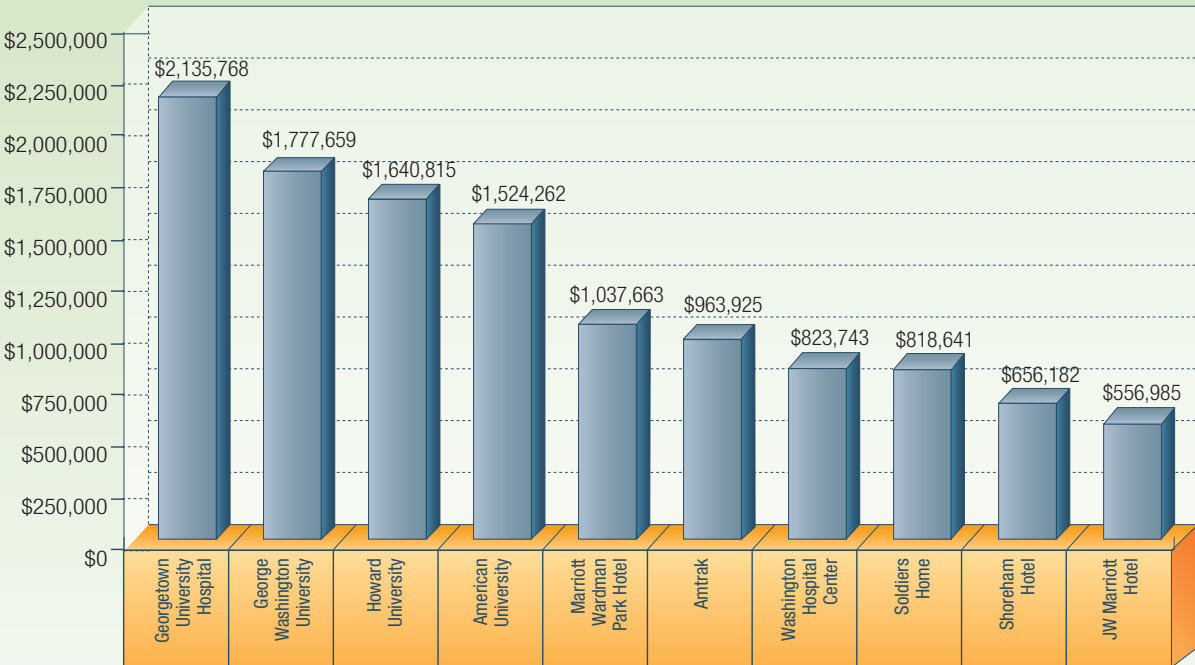
A) Included in commercial accounts are exempt accounts
 Source: DC Water and Sewer Authority Department of Customer Service

Ten Largest Government Customer Accounts By Revenues (Fiscal Year 2009)



Source: DC Water and Sewer Authority Department of Customer Service

Ten Largest Commercial Customer Accounts By Revenues (Fiscal Year 2009)



Source: DC Water and Sewer Authority Department of Customer Service

Finance and Budget

History Of Retail Water And Sewer Rates Per Ccf (Fiscal Years 1980–2009)

FISCAL YEARS	METERING FEE	DISTRICT PUBLIC SPACE OCCUPANCY FEE - PILOT	WATER CONSUMPTION RATE	SEWER CONSUMPTION RATE	COMBINED CONSUMPTION RATE	IMPERVIOUS SURFACE AREA CHARGE	AVERAGE MONTHLY BILL ²
1980-1983	\$ —	\$ —	\$ 0.460	\$ 0.677	\$ 1.137	—	\$ 9.471
1984	—	—	0.537	0.998	1.535	—	12.787
1985	—	—	0.698	1.297	1.995	—	16.618
1986	—	—	0.873	1.621	2.494	—	20.775
1987-1996	—	—	1.004	1.864	2.868	—	23.890
1997	—	—	1.380	2.710	4.090	—	34.070
1998	—	—	1.380	2.710	4.090	—	34.070
1999	—	—	1.380	2.710	4.090	—	34.070
2000	—	—	1.576	2.710	4.286	—	35.702
2001-2002	—	—	1.786	2.710	4.496	—	37.452
2003 ¹	2.010	0.360	1.690	2.570	4.260	—	40.490
2004	2.010	0.360	1.740	2.630	4.370	—	41.410
2005	2.010	0.360	1.830	2.760	4.590	—	43.240
2006	2.010	0.420	1.930	2.910	4.840	—	45.830
2007	2.010	0.440	2.030	3.060	5.090	—	48.080
2008	2.010	0.470	2.140	3.230	5.370	—	50.660
2009	2.010	0.520	2.300	3.310	5.610	1.240	54.310

¹ All rates are for one hundred cubic feet (1 Ccf) consumption with the exception of the flat metering fee, which became effective on October 1, 2002.

² Average residential customer consumption is 8.33 Ccf per month.

Source: D.C. Water and Sewer Authority Department of Finance & Budget

DC WASA's Retail Rates Comparison To Other Utilities (September 2009)



Source: DC Water and Sewer Authority Department of Customer Service

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0 fully grown	2.3 gallons	0 million BTUs	0.1 pounds	0.4 pounds

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