



A Conversation with Cas Holloway Commissioner, New York City Department of Environmental Protection

As we continue to engage government executives who are changing the way government does business, we had the pleasure of taking The Business of Government Hour on the road to a variety of U.S. cities. New York City, perhaps more than any other, represents a complex ecosystem that requires and consumes a vast array of natural resources. Protecting such resources and the environmental health and welfare of its residents is essential for the City—for all cities to exist and thrive. We spoke with Cas Holloway, commissioner of the NYC Department of Environmental Protection (DEP), about his efforts in this area that includes an overview of the City's water system, how the City ensures its water system is viable for the next 100 years, innovative ways of managing a major capital construction portfolio, NYC's sustainability efforts, and protection of its watersheds.



On the Mission of the New York City Department of Environmental Protection

We are primarily a water and wastewater utility. There are a couple of other important quality-of-life functions central to our mission: air quality and noise quality—many issues that are about the everyday environment and quality of life for New Yorkers.

When I think about the agency operations, it's about supplying water, which comes from our 19 reservoirs distributed over 6,000 miles of aqueducts, tunnels, and water mains. Water is then fed into the city's three main water tunnels—City Water Tunnels No. 1, No. 2, and No. 3—where it's carried to the distribution network of mains under the City's streets. It's pretty amazing. We supply about a billion gallons of drinking water every day to New Yorkers—8 million in the city and a million who are just outside the city and in some upstate counties and towns. It's also about treating [wastewater through our] 14 wastewater treatment plants. When you turn on the tap, brush your teeth, or take a shower, then we're into the collection system and the wastewater treatment side of our business. There are 7,400 miles of sewer mains in New York City. They carry the 1.3 billion gallons of wastewater that New Yorkers produce every day to one of 14 wastewater treatment plants. Each plant is a major industrial operation.

It is a heavily regulated area, as it should be. On the drinking water side, the New York State Department of Health is the primary regulator in terms of meeting drinking water quality standards. On the wastewater treatment side—[focusing on] the quality of the city's ambient waters—it is the New York State Department of Environmental Conservation.

On Challenges Facing DEP

The first challenge is performance measurement. DEP clearly does a good job. People turn on the tap. The water comes out. The water also goes away. That is the surest indicator that we're doing great. To better measure our performance, we're [setting up] a new Office of Strategic Planning to put together a comprehensive set of metrics across our four core areas. It's not just enough to break things down into your management buckets. [We need to] focus on: What are the goals within each area, and how are we going to get there? How are we performing as a utility? How do we define success across the agency, and specifically, within each of the four core



functions? I'm taking a very methodical approach to defining these things with the ultimate goal of driving [better] decision-making across the agency.

Challenge number two is our capital program, which is huge. Right now, we have \$11 billion in construction. We have \$3 billion in design. We do some very complicated work. We have to do all our projects while keeping our wastewater treatment plants running. You cannot shut down plants and divert flow to another plant, which drives up costs and makes projects more complicated. We're trying to bring more discipline to our project design and execution process. That's a huge challenge.

The third challenge is operating efficiency. Coming into the agency, [I saw] a certain degree of [operational] silos that I wanted to break down. People don't take advantage of resources. People also get it in their mind that these resources are their resources. That's not the case; they're the agency's resources. We have to figure out how best to allocate them. To better leverage the expertise across the agency, we started taking down the walls on the top floor [of our office] to build a bull pen. You can deal with things right away in that kind of environment.

The final challenge is the agency's relationship with its regulators and stakeholders. For a long time, there was an attitude that the only way to get DEP to do something was to sue it. [Mayor Bloomberg's] philosophy is if you're litigating, you've already lost. You can come up with a better, more cost effective deal, and maintain operating flexibility, if you negotiate.

In February [2010], we announced an agreement with the Natural Resources Defense Council and stakeholders in Jamaica Bay to make \$115 million of investments in nitrogen reduction over the next 10 years. If we hadn't negotiated this agreement, it could have been embodied in a consent order that we would have litigated over for five years, during which time many resources would be wasted. In the end, you [could] just have something that ties your hands.

On Financing and Managing DEP

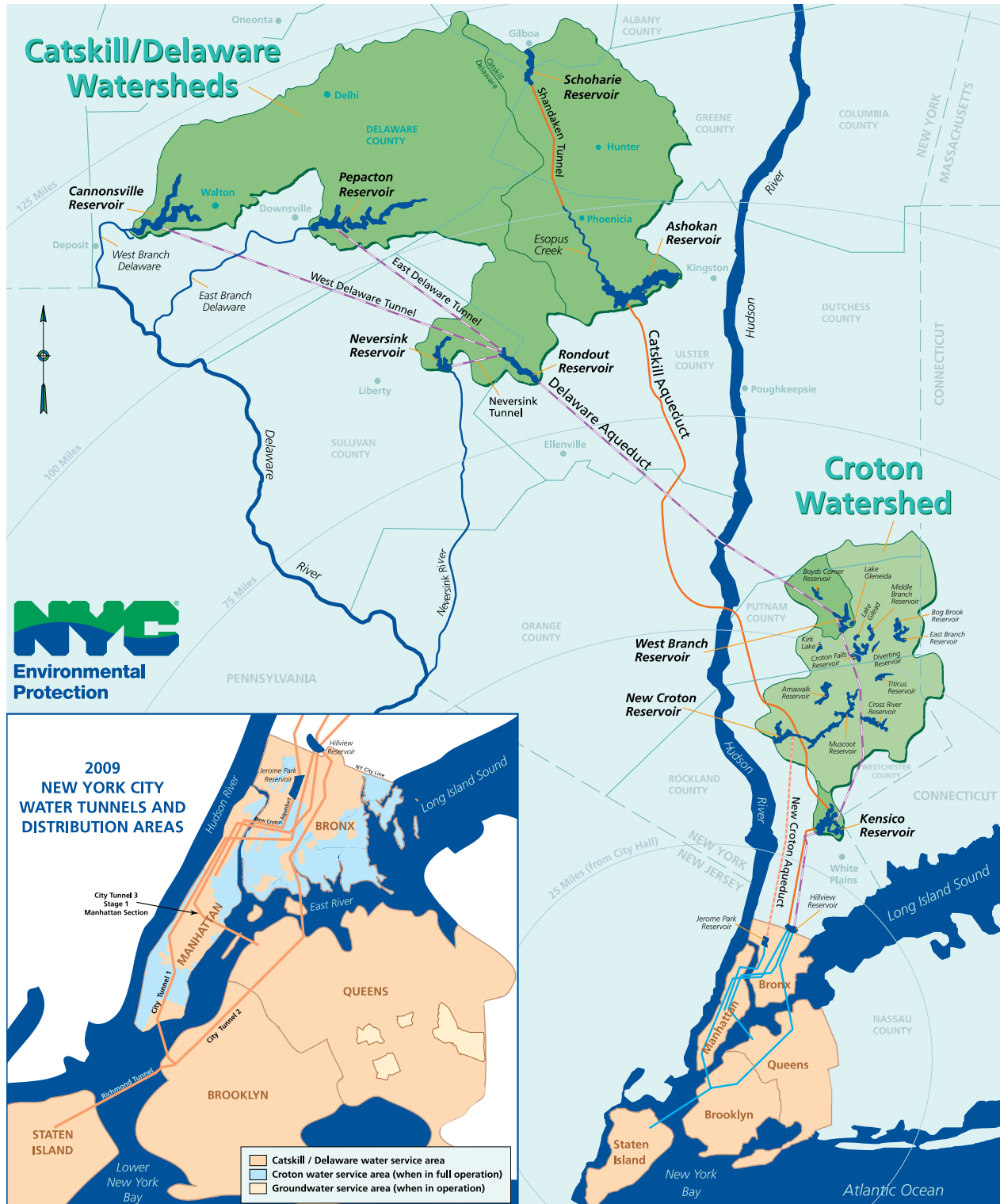
My top three responsibilities are: first, to deliver clean drinking water and to treat wastewater to the appropriate standards; second, to do this all in a way that's sustainable and to meet Mayor Bloomberg's sustainability goals; and third, tying one and two together, to do it as cost-efficiently as possible so that New Yorkers pay as little as possible for the best service.

I'm going to break the capital project priorities into two categories: mandated and non-mandated, or discretionary, projects. Mandated projects are first defined by federal laws; then rules are promulgated, and the power to enforce these rules, in most cases, is then delegated to the state. Meeting these rules is something we're required to do. In some cases, it requires massive investments. Over the last seven years, 69 percent of the \$19 billion invested in our water and wastewater infrastructure has been dedicated to meeting state and federal mandates.

The financing of our operating and capital program is pretty simple. Water users are charged a rate for their water and sewer use. That rate has to be sufficient to cover four things: one is the cost of debt servicing of our capital program. We float bonds to fund capital construction. Second, there are the operations and maintenance costs, which are about a billion dollars a year. Third, there is the payment that we make to the city, the so-called rental payment, which funds essential city services. Then, finally, there's the "pay-as-you-go" capital program. We've had about \$100 million in that [latter] category for the last few years.

We also have discretionary projects. The single most important [non-mandated] project is City Water Tunnel No. 3. The mayor recognized early on that this tunnel gives [the city] the capacity to distribute [water if it] needs to turn off or shut down tunnels No.1 and No. 2 for regular maintenance and upkeep. City Water Tunnel No. 1 has been going strong since 1917. Tunnel No. 2 has been [operating] since 1936. That's a long time without a break.

New York City's Water Supply System



Source: New York City Department of Environmental Protection



“DEP clearly does a good job. People turn on the tap. The water comes out. The water also goes away. That is the surest indicator that we’re doing great.”

— Cas Holloway

We have also about nine or 10 projects going on simultaneously. How do we make these discretionary investments? We happen to be in the midst of transform[ing] the way that we do that. [It’s very important for us to] control costs. The first thing I asked our senior managers to do was to cut budget expenses by 8 percent across the board. To the credit of our managers, they’ve done a good job. We’re in the midst of a project-by-project capital review [asking]: What are we building? Why are we building it? When are we building it? Is there an opportunity to move, stretch, or do things that will ultimately lower the burden or the need in the immediate future? If there is a need for a rate increase next year, then it will be as low as possible.

On the American Recovery and Reinvestment Act (ARRA)

We received \$219 million in ARRA funding, which has enabled us to [fund] 10 projects that are underway right now that otherwise wouldn’t be. Many of these projects have

to do with energy efficiency. It is a welcome return of the federal government into the funding of water and wastewater infrastructure, [which] has been largely absent for the last 10 years. We basically peaked at about a billion dollars of funding from the federal government in the 1980s. That was cut in half to \$522 million in the 1990s. Over the last 10 years, it’s been about \$44 million [annually].

On Protecting New York Watersheds from Natural Gas Drilling

When the proposal came up for natural gas drilling within the New York City watershed part of the Marcellus shale, we hired an independent expert to study this issue closely. To put the issue in context: There is a deposit known as the Marcellus shale, which covers a large part of the northeastern United States. Over time, through the development of technology and drilling methods, it’s now possible to get into this rock deposit and free up natural gas. Natural gas is a good, clean energy. We’re in favor of it. But questions remain: How do you get it? Where do you get it?

Our research shows that the level of industrial activity that would be required to exploit this resource would really jeopardize New York City’s water quality over the long-term. The city currently does not have to filter the majority of its drinking water. This is because our source waters are so pristine. The key to keeping them this way is to sufficiently control our watershed lands. We do this by purchasing watershed property and have spent over \$541 million on it so far. The research also said that given the state of technology, this drilling is not compatible with keeping our water unfiltered. We sent our findings to the state and think it’s only a matter of time before the state comes to a similar conclusion. Drilling may be perfectly fine to do outside of an unfiltered watershed, but it’s not okay to do in New York City’s watershed. To provide some additional context, only 6 percent of the available Marcellus shale deposits in New York State are in the watershed, so that means 94 percent is outside of it.



NYC Department of Environmental Protection

New York City Water Tunnel No. 3 is the largest capital construction project in New York State’s history and among the most complex engineering projects in the world today. It is intended to provide the City with a critical third connection to its Upstate New York water supply system.

On New York City's Sustainability Agenda and PlaNYC

Mayor Bloomberg probably has the most ambitious urban environmental agenda in the country, if not the world—PlaNYC. It sets 127 goals for 2030, which range from reducing the city's greenhouse gas emissions by 30 percent to opening up 90 percent of the city's waterways to recreation. In order to do that, you have to have high water quality. In order to have high water quality, you have to meet treatment standards, while always looking to do better either through technology or operating efficiency. DEP has a central role in PlaNYC.

One of the first things I did when I became commissioner was to create a new position, the deputy commissioner for sustainability. Our deputy commissioner, Carter Strickland, is looking at how we can bring in a more aggressive, green infrastructure approach. The basic idea is, how do we capture storm water from the buildings or the streets, and can we do it with infrastructure that also has ancillary public benefit? DEP is ahead of the curve on sustainable methods of dealing with things like storm water. This is a really exciting area. It's going to take open-mindedness on the part of our regulators for us to be successful, but we think we can capture more storm water, and do a better job overall.

On the Importance of Forging Partnerships

DEP does not act alone. We act in partnership with our regulators and with our many environmental stakeholders. [Forging] such partnerships are an important aspect of what we do. I think it enables us to really get beyond what we would normally conceive of as DEP's jurisdiction. Pursuing partnerships is also a particular focus of the new deputy mayor for operations, Stephen Goldsmith, who is looking at how to use public/private partnerships to help deliver a service, or to help make an investment where [the city] is better off doing that in partnership than by itself.

On the Future

I think at the top of the list has to be the regulatory trend—where are we headed and in what relation to [our regulators]—the U.S. Environmental Protection Agency and the New York State Department of Environmental Conservation.

We all share the same goal: high quality drinking water and water quality standards that are going to enable recreation on our waterways. There are a couple of different approaches to [achieving] that. We're in the middle of planning our long-term control plans, [identifying] some of the things that we have to put together for New York's harbors over the next 20 years. What these plans contain and their degree of flexibility will depend on that regulatory trend.



Newtown Creek Wastewater Treatment Plant in Greenpoint, Brooklyn. The lighting scheme, designed by L'Observatoire International, subtly casts a halo of blue light around the 145-foot-high, stainless steel-clad eggs, which process as much as 1.5 million gallons of sludge every day.

In terms of technology, it also ties back to that regulatory trend. For example, nitrogen is a natural byproduct of the wastewater treatment process. It consumes a lot of oxygen that can have negative effects on aquatic life. We want to remove the nitrogen. There is promising new technology that enables us to do it more cost effectively. In fact, we're going to do one of the biggest de-nitrification technology projects anywhere in the country at one of our plants. That's really exciting.

There's also technology, like automated meter reading, that really can revolutionize our customers' ability to manage and make smart decisions. Mayor Bloomberg and Deputy Mayor Goldsmith are [proponents] of using technology to help people make their lives easier and [enable them to] make better decisions. ■

To learn more about New York City Department of Environmental Protection, go to www.nyc.gov/html/dep/html/home/home.shtml



To hear *The Business of Government Hour's* interview with Cas Holloway, go to the Center's website at www.businessofgovernment.org.



To download the show as a podcast on your computer or MP3 player, from the Center's website at www.businessofgovernment.org, right click on an audio segment, select Save Target As, and save the file.



To read the full transcript of *The Business of Government Hour's* interview with Cas Holloway, visit the Center's website at www.businessofgovernment.org.