



Environmental Protection

Michael R. Bloomberg, Mayor
Cas Holloway, Commissioner

WEEKLY

PIPELINE

November 30, 2010

Volume I • Issue 48

Forecast Calls for Better Water Quality Projections

Heavy rain and snow affect our water supply by suddenly changing the quantity and quality of the water in New York City's upstate reservoirs. For example, heavy rain can cause an increase in turbidity that might change how BWS uses the Catskill, Delaware, and Croton watersheds to meet the demand of nine million consumers in New York City, Ulster, Orange, Putnam, and Westchester counties—and the lack of rain can cause water supply issues that lead to drought regulations.



Today's decisions on how to manage water supply requires information about where the water supply will be months in advance. DEP's new Operations Support Tool (OST) is a collection of predictive modeling and data acquisition tools that will help BWS more accurately monitor reservoir levels east and west of the Hudson River; reservoirs have dynamic elevation targets that change throughout the year to account for seasonal varia-

tions in weather and past, current, and future projections of inflow. Whereas DEP previously used information on water quality, the amount of anticipated rain and snow, and current reservoir levels to calculate new balance targets several times a year, OST will automatically deliver continuous, real-time projections. For example, if heavy rain increases turbidity in one part of the sup-

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Spotlight on Safety

Lab Safety

Laboratories are unique work environments that can contain potential hazards to employees and visitors. To safely enter and work in these areas, training and information on hazardous chemicals is required. OSHA mandates that a written Chemical Hygiene Plan (CHP) be prepared for labs that work with hazardous chemicals in order to ensure the protection of the lab worker. Information contained in the CHP must be readily available to affected employees as well as to any non-laboratory personnel (i.e., vendors, contractors). Because each lab is different, the CHP and related documents need to address all potential hazards and give information on implemented engineering controls and how to best avoid potential ex-

posures and injuries for each facility. Labs can contain hazards associated with materials used and stored in them, or from analytical equipment. These materials may be of a biological, chemical, or radioactive nature. DEP has labs in the city and the watershed that analyzes drinking water quality, wastewater effluent and water main breaks.

Signs are posted on or near the door to the lab, in a specific work area, or on a piece of instrumentation to indicate the presence of a hazard. Non-laboratory personnel should not enter areas that have unauthorized entry prohibited signs, or state specific warnings such as "Keep Out." For more information on the laboratory CHP, personnel may contact the director of the laboratory they need to access.

Commissioner's Corner

Sometimes an old idea is the springboard for a new approach. From about the turn of the 20th century until 1968, DEP was officially the Department of Water Supply, Gas and Electricity (DWSGE). Water supply and distribution was still the agency's primary mission, but our predecessor also had oversight of the use and transmission of gas, electricity and steam within the city. From an infrastructure perspective, the combination made sense; in New York City, water and (for the most part) energy are distributed through vast underground networks that require similar skills to maintain and operate. The City got out of the energy supply and distribution business altogether in 1968, and the short-lived Department of Water Resources became responsible for water supply and distribution until DEP was formed in 1977.

Last week, DEP re-entered the energy world, not as a supplier or distributor, but with significant new responsibilities for energy policy and planning. The new DEP energy team will be led by Strategic Planning Director **Sergej Mahnovski**, who will work closely with the Department of Citywide Administrative Services (DCAS) and the Mayor's Office of Long Term Planning and Sustainability to ensure that the city's energy supply remains reliable, clean, and affordable. You can read more here [↗](#). As the third largest energy consumer in the city, and with a portfolio of more than \$200 million in clean energy and energy efficiency projects in the capital pipeline, DEP has a depth of experience in the energy field that is unique among City agencies. And with assets that include our reservoirs and wastewater treatment plants, DEP is well positioned to partner with the private sector to develop renewable, clean energy upstate and right here in the five boroughs.

Our team—which includes Director of Energy Regulatory Affairs **Michael Delaney**, who just joined DEP from EDC—has already hit the ground running; last week DEP issued two requests for interest in developing a cogeneration plant on Wards Island, and hydroelectric power in the watershed.

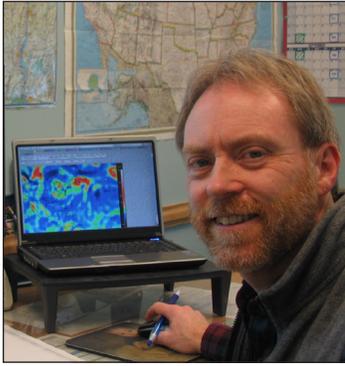


These potential partnerships could generate up to 45 megawatts of power—enough to supply roughly 31,000 homes. And we are piloting new technology at our Rockaway Wastewater Treatment Plant that fosters algae growth for conversion to butanol—a biofuel that can be put right into your gas tank [↗](#). Expect a lot of exciting initiatives from the energy team as we strive to take advantage of DEP's assets and processes to generate clean, renewable power.

In New York City's watershed, hydraulic fracturing (a.k.a. hydrofracking)—an invasive industrial process to extract natural gas from a geologic formation called the Marcellus Shale—remains an important issue. While New York State DEC has concluded that hydrofracking cannot be permitted in the watershed without further study [↗](#), the Delaware River Basin Commission (DRBC) is seeking to establish regulations that would permit hydrofracking within the Delaware River Basin. Based on an independent study, DEP concluded that hydrofracking could not be conducted safely in the city's watershed [↗](#). Last week, **Mayor Bloomberg** asked DRBC to conduct its own study of potential impacts rather than regulating first and dealing with potential impacts after the damage is done: "A rush to regulate and drill risks the long-term viability of one of the most important drinking water sources in the United States," the Mayor said. "Without the benefit of...a targeted study, the proposed regulations may be insufficient to protect the vital natural resources that we share." You can learn more about hydrofracking, the City's position, and the latest news on the issue here [↗](#).

At DEP, everyone is responsible for safety. If you or anyone on your team is concerned about your working conditions, it's okay to ask your supervisor or your bureau's EHS liaison how they can help. If you've still got questions, you can call the EHS Employee Concerns Hotline. It's DEP's responsibility to acknowledge and fix unsafe situations, procedures, and practices. With your help, we'll not only get the job done, we'll make it safer for ourselves, our coworkers, our families, and our city.

CALL (800) 897-9677 OR SEND A MESSAGE THROUGH PIPELINE. HELP IS ON THE WAY. [↗](#)



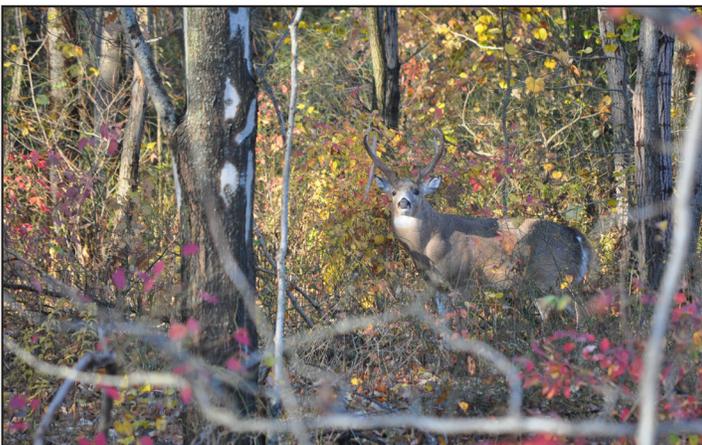
Deputy Chief for Watershed Monitoring and Operation Support **Jim Porter** is a master of collaboration; in speaking with him about his role here at DEP he mentioned no fewer than five individuals and organizations that contribute to his job monitoring forecasts and their effect on reservoir levels. That's because Jim's responsibilities—which he is quick to offer that he shares with others—include taking disparate types of information about weather conditions on the ground, water quality, and upcoming weather events and turning them into meaningful recommendations for managing NYC's reservoirs.

Right now some of that information comes from manual measurements of snow pack, electronically-transmitted measurements from snow pillows , and data from DEP's 25 weather stations. The National Weather Service (NWS) uses this information and its own data to generate stream flow and reservoir elevation forecasts for periods ranging from 48 hours to 90 days out. Jim began working for DEP in 1992 monitoring

water quality in stream flow; he says that his forestry Ph.D. on how acid rain affects water chemistry in the Adirondacks prepared him for his current position by helping him understand the hydrological and geochemical factors that affect the quantity and quality of runoff into DEP's reservoirs. Once at DEP, he honed his skills in meteorology since weather events are key to understanding how pollutants travel through water and are thus a necessary part of protecting the quantity and quality of the billion gallons of water New Yorkers consume every day. Preliminary work in forecasting eventually led to what Jim describes as “a really productive collaboration” with NWS that joined the agency's data collection capacity with the NWS's modeling tools. The US Geological Survey has also joined the partnership, and just as an individual might check several weather websites before heading out for the day, Jim works with Deputy Chief of Reservoir Operations Brad Dromazos to develop a “consensus forecast.” DEP's Operational Support Tool (OST) will build on this collaboration with the NWS by being the first municipality to fully incorporate the forthcoming “souped-up” version of NWS's streamflow forecasts.

An avid runner, Jim takes full advantage of the natural beauty near his Grahamsville base and recently started ultra-running, or long-distance marathons, that bring him through upwards of 50 miles of trails. He also enjoys spending time with his two children.

Kudos Corner



BWSO Bluebelt Field Manager **James Rossi** took this great photo of a large white tail buck while conducting a routine inspection at the Mill Creek Bluebelt in Staten Island.

- Q. Because of questions surfacing about increased lead levels in the drinking water in some areas of the city- has the use or efficacy of calcium orthophosphate, originally introduced into our drinking water system under a previous administration to reduce lead levels, been deemed unacceptable? - **Stacey Moriates**, DrPH, BEC
- A. DEP is investigating the reason for the slight increase in lead levels observed this year; however, adding orthophosphate is still effective in keeping lead levels down. Lead is not a problem for most residences in NYC as the source water is lead free. It is only potentially a problem if internal plumbing contains lead and water has stood in the piping for long periods of time. In response to the requirements of the Lead and Copper Rule, NYC began its corrosion control program to reduce the leaching of lead and copper from internal plumbing in 1991 by increasing the pH of the city's water with caustic soda and adding a blended orthophosphate to create a film on the surface of internal plumbing. Before finally achieving acceptable lead levels in 1999, DEP adjusted dosage levels and changed the corrosion control chemical to achieve optimal results. The treatment regime had been effective at maintaining levels below the lead action level of 15 ppb for the past 10 years.

Did You Know?

... that there are nearly 400,000 manholes maintained by DEP as part of the water and sewer infrastructure in New York City's five boroughs.

(Forecast Calls for Better Water Quality Projections... continued)

ply system, OST can predict how long it will take for water quality to improve, and just as importantly, how long we can sustain the volume we draw from a different reservoir to meet demand. In addition to an expansion of the calculations DEP already uses, OST will eventually draw on newly-improved forecasts from the National Weather Service compiled with DEP data.

New York City also continually tries to balance the needs of downstream communities, while at the same time taking into account other unforeseeable factors such as prolonged droughts and infrastructure disruptions. OST will enable DEP to divert or release water from each of its reservoirs at the best times. This not only protects downstream habitat and helps cushion storm

impacts, but it ultimately guarantees a reliable amount of the highest quality water is delivered to New Yorkers both now and in the future as the city continues to grow. DEP will be presenting OST at the next Delaware River Basin Commission Regulated Flows Advisory Committee Meeting in December.

OST will come online in phases and is expected to be complete by the end of 2012. As Deputy Chief of Reservoir Operations **Brad Dromazos** notes “When OST is fully integrated, it will provide us useful guidance when making water supply decisions. These products, along with our knowledge and experience, will help determine the proper course to provide a reliable supply of high-quality water to the citizens of the city.”

Event Calendar:

DEP Blood Drive

Lefrak, 6th Floor training room: 12/7-12/9, 8:00 am to 1:30 pm. Please click here  to see the memo from Commissioner Holloway.

Milestones

Congratulations to **Lima Bullen**, BPS, and her husband **Devin** on the birth of their son **Justin** on November 14, 2010. Mother and baby are both doing fine.

Congratulations to **John H. Wilson**, BPS, and his wife **Jeannie** on the birth of their son **Tyler Matthew** on September 30, 2010. All are doing fine.

We welcome your feedback! To submit an announcement or suggestion, please email us at: newsletter@dep.nyc.gov. 