

**Special Guest** *Commissioner's Corner*



**Pam Elardo**, DEP's Deputy Commissioner for Wastewater Treatment, is a guest commentator this week.

Ensuring the proper collection and treatment of wastewater is essential to protecting public health and our local waterways. Operating our vast network of pipes and large treatment plants is not an easy job by any stretch—and we continue to meet very stringent water quality requirements for the effluent from our “clean water factories.” Over time we have expanded our operational expertise to take on a growing list of new requirements to further enhance environmental quality. Case in point: Nitrogen. I am pleased to announce that following a [\\$1 billion investment](#) in upgrades at four wastewater treatment plants, the amount of nitrogen being discharged into the Upper East River has been reduced by more than 60 percent. These significant upgrades will improve the health and ecology of the East River, Long Island Sound and New York Harbor.

Why nitrogen? Nitrogen is a naturally occurring element that is found in food and other organic materials and is present in wastewater when it enters the treatment plants. Because nitrogen it is not a pathogen and poses no threat to human health, the wastewater treatment plants were not originally designed to remove it from the treated water before it is discharged into a receiving waterbody. However, more recent scientific research has found that high levels of nitrogen can degrade the overall ecology of a waterway by promoting excessive

algae growth that can reduce levels of dissolved oxygen, especially in warm weather months, causing negative impacts to fish and other aquatic organisms.

As part of an agreement with the New York State Department of Environmental Conservation (DEC) and the New York State Attorney General, DEP committed to reducing the combined nitrogen discharges from its wastewater treatment plants located along the East River by 58.5 percent by January 2017. And, as of September 2016, nitrogen discharges from New York City wastewater treatment plants to the East River have been reduced by approximately 61 percent.

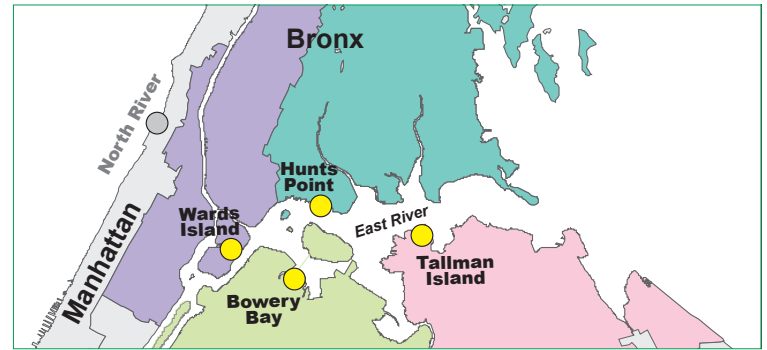
The introduction of nitrogen removal technology, which converts the organic nitrogen present in wastewater into inert nitrogen gas that is released harmlessly into the atmosphere, required significant upgrades to much of the plants' supporting infrastructure, as well as a significant investment in enhanced operations techniques and strong commitments on the part of the treatment plants' operations staff. Some of the new or upgraded equipment to treatment plant operations include electrical substations, aeration systems, sludge pumping systems, sluice gates, mixers, and surface wasting systems, just to name a few. In addition to reducing the amount of nitrogen discharged from the plant, some of these investments provide the added bonus of improving base operational systems such as aeration, helping those components meet state of good repair needs.

As part of DEP's extensive New York Harbor water quality monitoring program, the reduction in nitrogen discharges into the East River and the effect on water quality will be closely monitored over the next several years. As the plan requires further reductions in nitrogen discharges, it is anticipated that Long Island Sound will take some time to respond to the changes. As the scientific data is quantified, DEP will

continue to work with its partners in the region to determine the appropriate steps to continue the restoration of the health and ecology of the Sound.

These continued investments and improvements have solidified New York City as a regional leader in

nitrogen removal. I'd like to personally thank DEP's scientists, engineers and planners that made these complex upgrades, and the operations staff for making it happen while New York City's wastewater treatment plants continued to operate around the clock.



*Spotlight on Safety*

**Working in Extreme Cold Weather**

As we enter the winter season, it is a good time to remind employees of the precautions necessary for working in extremely cold weather. Outdoor workers face serious health hazards, such as hypothermia and frostbite, if they are not properly prepared to labor in freezing temperatures. Hypothermia can begin if a person's body temperature drops to or below 95 degrees Fahrenheit. Symptoms can include shivering, slurred speech, numb hands and confusion. Frostbite is damage to the skin and underlying tissue, and symptoms include numbness, painful loss of feeling, and white or blue appearance of the skin. Both conditions can lead to death.

Remember, cold stress hazards can be prevented by taking proper precautions, including:

- be aware of weather forecasts, especially the wind chill factor
- work in pairs and monitor other worker's conditions; know the signs and symptoms of cold-induced illness
- wear proper clothing for wet and windy conditions, including hats and gloves
- layer clothing to adjust to the temperature

If you suspect someone is suffering from any of these conditions, alert a supervisor, call 911, and move the victim into a warm area.

Follow the safety guidelines in DEP's "[Exposure to Extreme Heat and Cold](#)" Guidance and OSHA's [Cold Stress](#) page.

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.

## *New Tech to Measure Watershed Snow*



Glenn Horton, left, and Francis Huber work to install the radar device on a metal pole in the woods of Delaware County.

A computer chip used to monitor the breathing of prematurely born babies is now being adapted by BWS experts to measure snow in the Catskill Mountains. The innovative use of the technology, which is now being tested at two watershed locations, could enhance the measurement of water trapped in snow and more accurately predict how reservoirs will refill in the spring. The chip—about the size of a match head—takes distance measurements by using radar. It emits radio signals of many different wavelengths in a specified direction, and then measures how quickly they return to the unit. The chip compiles information at a rate of 40 billion measurements per second and produces 512 averages from those data. The result is a distance measurement that is extremely precise. The concept was born of some brainstorming between BWS employee **Glenn Horton** and his brother, who lives in Vermont.

## *Welcome Aboard!*



Yesterday, 25 new employees attended orientation and received an overview of the department from Deputy Commissioner **Diana Jones Ritter** and Director of Planning and Recruitment **Grace Pigott**. We hope everyone will join us in welcoming them to DEP!

**Gerardo Mercedes** with BCS; **Lindiwei Farrow-Harris** and **Matthew Sawyer** with BEC; **Kemberlyn Arevalo**, **Keenan Joseph** and **Philip Sasko** with BEDC; **Frank Beres** and **Rajesh Chawla** with BWS; **Christopher Amoroso**, **Michael Au**, **Travis Baucage**, **Anthony Canelo**, **Richard Davidson**, **Matthew Dreisch**, **Alejandro Espinoza**, **Tinu Isac**, **Richard McCants**, **Alain McGhie**, **Jason Miles** and **John Satizabal** with BWSO; **Chitta Ranjan Deb**, **Shawn Stanton** and **LaShebe Tarver** with BWT; **Renee Whitehead** with CDBG; and **Aziz Chalisa** (intern) with BLA.

## *Under-Ice Buoys Deployed at Ashokan*



Under-ice water quality monitoring buoys (pictured above) have been deployed at Ashokan Reservoir. This year, scientists placed the West Basin under-ice buoy in early December and slid the East Basin buoy into the water three days before Christmas. They sit near where water is drawn into the Catskill Aqueduct and sent south to the city. The ice-durable sensors replace three warmer-weather buoy samplers and provide DEP's scientists with a previously unavailable glimpse into the reservoir's winter water quality. It also helps them understand how the reservoir responds to winter weather. The instruments are part of a robotic network that performs 1.6 million water quality analyses each year. Two under-ice buoys have been deployed in Ashokan each winter since late 2014, and scientists hope to expand the program to other reservoirs in the future.

## *19 Graduate from DEP Police Academy*



DEP recently celebrated the graduation of 19 new police officers who were trained at the Staff Sgt. Robert H. Dietz DEP Police Academy in Kingston, New York. The new officers will be immediately deployed to protect the City's water supply reservoirs, infrastructure, and the 2,000-square-mile watershed that stretches across parts of nine upstate counties. The new graduates were honored Friday during a ceremony at the Ulster Performing Arts Center in Kingston. The graduating class had the largest ever percentage of female recruits (26%), and, in a first for the agency, a female recruit won awards for both highest test scores and best physical fitness. Best of luck to all the graduates!

**We welcome your feedback! To submit an announcement or suggestion, please email us at: [newsletter@dep.nyc.gov](mailto:newsletter@dep.nyc.gov).**