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NEW YORK BUSINESS

OPINION

For better resiliency, don't just try to defeat nature —work with it

Innovative parks help the city withstand severe weather

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The Trust for Public Land

Published: June 14, 2018 - 12:01 am

Like a lot of coastal cities, New York City has expanded its shoreline into the water for centuries. But as sea levels rise, we're beginning to learn that this strategy has put large areas of the city at risk, as nature seeks to establish a new shoreline further inland. We will have to adapt to this new reality by protecting and creating wetlands that can buffer inland areas and, in places where there isn't space, creating berms and floodwalls and raising buildings. But any wall that keeps water out will also keep water in—which is a problem in places where rainfall is increasing and there is a high density of buildings and roads, like in New York.

Caught between coastal flooding and rain-based flooding, innovative cities around the world are learning to work with nature as much as possible. New York City is using new parks to help make our city more resilient, but it will take a long-term commitment to these innovative practices to ensure that our city is prepared for the challenges caused by climate change. The good news is that unlike major surge barriers, many of these investments can be built relatively quickly. Right now, the Trust for Public Land is in the process of opening four brand new, innovative playgrounds in a span of just four weeks.

Before Hurricane Sandy, most New Yorkers felt immune from natural disasters. We don't experience frequent tornadoes like parts of the Midwest, earthquakes like California, or droughts and wildfires that have scorched much of the west. Sandy was our wakeup call for how climate change will have significant and widespread affects across one of the world's largest metropolitan areas.

With 520 miles of coastline, there are more residents living in high-risk flood zones in New York City than any other city in the nation. That's why FEMA is currently redrawing the city's flood maps for the first time since 1983, the first project of its kind that will be shaped by the effects of climate change.

As New York comes to grips with this new reality, the city, civic institutions, and community groups are building parks and playgrounds that incorporate plants, permeable pavement, greenroofs, green roofs, trees, bioswales, and rainwater catchment systems and other "green infrastructure." These "greening" practices absorb, delay, and

treat stormwater and the increased shade and plant evapotranspiration can help reduce peak summer temperatures by 2–9°F. This is important because cities are hotter than surrounding areas, and their residents are more vulnerable to heat waves, one of the greatest public health threats from climate change.

Several months after Sandy, New York City and The Trust for Public Land announced a partnership to build up to 40 new school playgrounds that use innovative design elements to capture stormwater, easing pressure on overwhelmed sewer systems and helping to prevent untreated water from ending up in rivers and bays, and also reducing flooding behind any seawall. Each playground absorbs hundreds of thousands of gallons of water annually and includes new trees that bring shade and better air quality to their neighborhoods. So far, 17 of these playgrounds have been completed, with another 10 in the pipeline. When combined with earlier playground we have built, the Trust for Public land has converted nearly 150 acres of land into green space.

For example, we are working with the city to renovate PS 184M-Chinatown as part of the Lower Manhattan Coastal Resiliency Program. This site will include advanced green infrastructure elements that will absorb stormwater on the landside of a planned floodwall around lower Manhattan. At the same time, the new park will serve the more than 28,000 residents who live within a 10-minute walk, as a space to meet, workout, play, and relax.

This is the kind of resiliency investment that pays “peacetime” dividends. For kids who play on a turf field or a web climber, it’s a great new playground. For the community, it’s a much-needed touch of green. And by including these innovative parks and playgrounds in our long-term planning, New York City can serve as a model for American coastal cities looking for ways to mitigate the effects of climate change.

Carter Strickland is the New York state director of The Trust for Public Land and was commissioner of the New York City Department of Environmental Protection during Superstorm Sandy in 2012.

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