



Looking Backward into the Future of New York

Ted Steinberg

*Can the lesson of Hurricane Sandy dampen the enthusiasm of New York City's growth machine? Ted Steinberg, author of *Gotham Unbound*, an environmental history of New York City, gives an overview of the historical developments that make the city one of the most vulnerable to floods in the United States.*

How should those who rule over New York City plan for its future? Sketching out elaborate plans has long been a cottage industry in the nation's largest city. To date, however, historical thinking has played very little role in this process, which has been largely dominated by developers, urbanists, architects, economists, and, more recently, climate scientists. Environmental history, a field that has been around for a generation, has had no part in these debates whatsoever. But it should.

Economic growth as New York's *raison d'être*

The most sweeping planning document to emerge in recent years is PlaNYC, a vast scheme, first released in 2007, to deal with the long-term challenges facing New York. The need for more growth—both demographic and economic—is the major assumption undergirding the plan. PlaNYC involves hundreds of initiatives in the areas of land, water, air, energy, and transportation and is designed to address the city's massive projected population increase, as well as climate change, and economic growth (Bloomberg 2007). As Mayor Michael Bloomberg put it in 2011, New York City should “continue to serve as an engine of economic growth for America and the world” (NYC Department of City Planning 2011). New York's *raison d'être* is to continue to grow in terms of population and land values, to flourish in a limitless fashion so as to outcompete other cities throughout the world. The Bloomberg administration made it sound as if there was something inevitable and timeless about New York's central growth mission.

Moroever, the Bloomberg administration decided to embrace growth and density as an antidote to climate change, an approach that, whatever its merit (hyper-dense cities, because of their energy efficiencies, can have lower per-capita carbon footprints than rural areas), overlooks the past environmental costs of compact living.

A history of the growth imperative: a real-estate market and low storm activity

So where did the idea that New York could grow endlessly come from? It first emerged in elite circles in the middle of the 19th century. The historical context, which gave rise to the notion that the city could and should grow in a limitless fashion, was twofold.

First, the idea was tied to the modernization of the real-estate market, that is, the creation of an institutional scaffolding that included a real-estate sales journal, salesroom, and auctions (Scobey 2002). The practice of using land as a tool for accumulating capital first emerged in North America

during the colonial period. But only in the third quarter of the 19th century did a full-fledged market in real estate, with all the necessary institutions for the free exchange of property, take root. The emergence of this institutional structure, in turn, underwrote the belief in limitless growth, an essential understanding for financial success because, without constant growth, land prices would stagnate. In other words, what the geographer David Harvey calls a “perpetual growth syndrome” had taken hold of New York (Harvey 2013). This idea was, of course, beneficial to those who owned property, the landed bourgeoisie. When city boosters invoked the prospect of limitless growth they helped to stimulate real-estate speculation and thereby drove up land prices and profits.

The second reason why the material conditions for capital accumulation and the legitimating ideology of endless growth took root in the second quarter of the 19th century is that the period was characterized by low storm activity. No major storms struck New York Harbor to set back the triumphalist narrative that elite New Yorkers were telling each other about the city’s onward and upward march of progress. As it turned out, this was a period of extraordinary calm in terms of major storm activity.

Only one very significant and intense hurricane barreled through Newark, New Jersey, in 1821, placing New York City on the dangerous right side of the storm (a result of the storm’s rotation). It caused considerable damage along the waterfront. The storm surge at the Battery is estimated to have been 10 to 11 feet (3 to 3.4 m), which, if true, would have outstripped the storm surge during Hurricane Sandy. But the 1821 hurricane happened before the completion of the Erie Canal and the rise of New York to economic dominance. The rest of the century was exceptionally calm. Indeed, it would be 67 years before another major storm buffeted New York Harbor: the 1888 blizzard that shut down the city. By then, the growth imperative had taken root and so had a new ideology with respect to calamities. Such calamities were dismissed as natural disasters, that is, they were normalized as simply freak natural acts that happened from time to time and in no way the product of the growth and development that had placed large concentrations of people and property in harm’s way (Steinberg 2000).

This history is important because it shows that the ideology of endless growth was not an inevitable one. It was the product of a particular historical context, both economic and environmental. In addition, the growth imperative would have stunning implications for the region’s sweeping expanses of marshland, which served as a natural barrier against storm surge.

The embattled marshlands: a man-made vulnerability

It is not often realized that as late as the early 20th century, New York was a big city located within what most people would call a swamp. More accurately, the city was positioned within a vast network of salt marshes filled with grasses able to thrive in the brackish water. An estimate from 1904 placed the amount of marshland within a 25-mile (40-kilometer) radius of City Hall in Manhattan at some 300 square miles (780 km²), or roughly the size of the land area of the five boroughs that make up New York City today. This immense intertidal system was largely the product of New York’s location along the estuary of the Hudson River, an environment where fresh water and salt water meet and that is brimming with nutrients. Because of the vast amount of nutrients, estuaries are hugely productive ecosystems.

The salt marshes that dominate estuarine environments such as New York’s serve a number of important functions. These include providing habitat for juvenile fish species, as well as for wading birds such as yellow-crowned night herons and snowy egrets. Salt marshes trap sediment and also filter impurities from the water and thereby help to improve water quality. Finally, they provide a crucial buffer to help lessen the impact of coastal flooding.

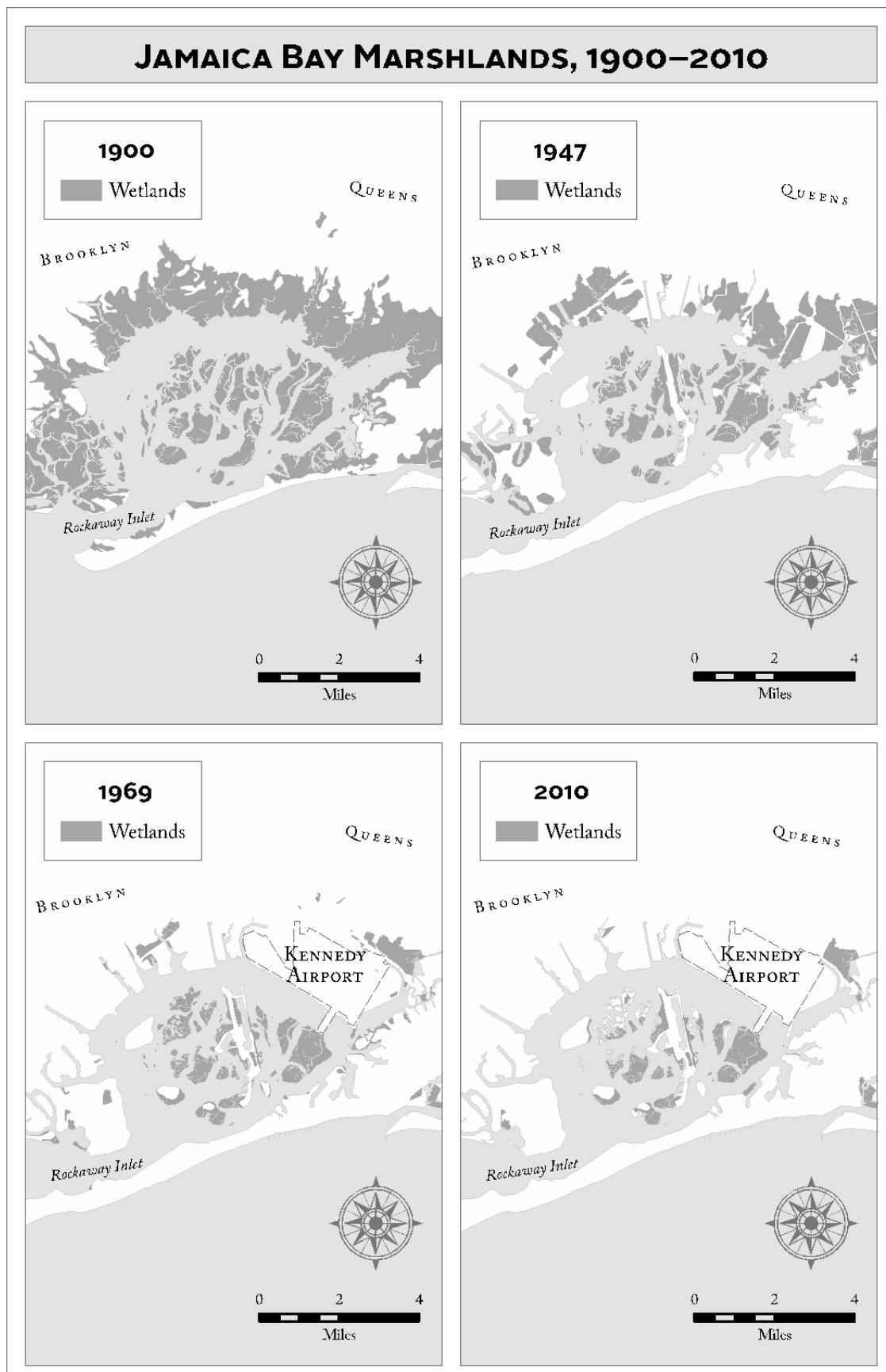
Although the story of New York is often presented as one long march of progress, the reality is that the city’s growth came at the expense of its once magnificent expanses of marshland. Detailed analysis of some of the region’s largest marshlands at Jamaica Bay, Flushing Meadows, and Fresh

Kills and Great Kills on Staten Island reveals that they experienced an aggregate decline of almost 90%, from 23,642 acres (95.68 km²) in 1900 to just 2,811 acres (11.38 km²) in the early 21st century.

Jamaica Bay: dismantling the city's natural protection

Consider, for example, Jamaica Bay, where some of the worst flooding occurred during Hurricane Sandy. At the start of the 20th century, some 25 square miles (65 km²) of marshland existed. But in the 1930s, the channel into the bay was deepened and several marsh islands were eliminated. More marsh disappeared as Barren Island was joined to the mainland to create Floyd Bennett Field, the city's first municipal airport. In the following decade, John F. Kennedy Airport was built on the eastern side of the bay and yet more marshland succumbed. In addition, more obscure factors, including nutrient pollution, were likely involved in the loss of salt marsh (Deegan *et al.*, 2012). By 2010, all that was left of the bay's prodigious expanses of waterlogged habitat was a bit over 3 square miles (8 km²).

Figure 1. Loss of wetlands in Jamaica Bay between 1900 and 2010



Source: Steinberg, Ted. 2014. *Gotham Unbound: The Ecological History of Greater New York*, New York: Simon & Schuster, p. 311.

The growth fetish has helped to underwrite the building of airports, roads, parks, and housing at the expense of salt marsh and sea. All told, a colossal seven Manhattan Islands' worth of open water and marsh has been filled in across New York Harbor since the early 19th century, eliminating wildlife habitat, undermining an intricate water filtration system, and making the city increasingly vulnerable to coastal flooding in the process.

The importance of looking back to better move forward

Historical thinking about New York is thus important for at least three reasons.

First, past developments structure what is possible in the present. No plan for the future could possibly be sufficient without acknowledging that New York was built over centuries on an island environment along the estuary of the Hudson River; this history of growth into the sea shapes what can take place going forward. At a minimum, those architects of New York's future who are determined to lobby for more growth need to acknowledge the unique historical context that gave rise to this idea, and defend it in the context of a 90% probability that sea level will rise at least 7 inches (18 cm) by the 2050s (NYC Panel on Climate Change 2013). Urban planners envisioning still more growth—and one projection is that, by 2040, New York's population will have increased by some 800,000—need to address its potential for aggravating the risk of coastal floods and hurricanes (NYC Department of City Planning 2013).

Second, historical thinking can cast a healthy critical perspective on the argument, embraced by New York's boosters, that sustainability can be tackled through more urban growth. Yes, it is true that dense cities, because of their energy efficiencies, can help to address the prospect of global warming. But the story of "sustainable" New York, as the historical record with respect to salt-marsh decline and coastal flooding attests, is much more complicated than New York's promoters would have one believe. Keeping the city's ecological history at the forefront of discussions can at least help guard against a reflexive approach to more development, especially if that growth is destined to take place in the surrounding waters or in the city's riskiest hurricane evacuation zone.

And third, historical analysis can keep current debates honest. The official reaction to Hurricane Sandy is a case in point. Some of those in power created the impression that the disaster was largely the result of chaotic natural forces. "The city can't control Mother Nature," said Steven Spinola, president of the Real Estate Board of New York (quoted in Chaban 2012). Such a statement is fundamentally ahistorical and harmful because it masks the long history of land-making and building on low-lying ground that made Hurricane Sandy the calamity it was. In a world of rising seas, it might not be too much to suggest that historical thinking is all that stands between New York—a city woefully unprepared for flooding—and the next big wave.

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Further reading

To learn more about the ecological history of New York, see: Steinberg, Ted. 2014. *Gotham Unbound: The Ecological History of Greater New York*, New York: Simon & Schuster.

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