

The Dollars and Sense of Investing in Clean Water

WHAT IS WATER WORTH? “Priceless,” some will answer, but on Long Island, water and other features of the environment *are* the economy, according to public officials. What does that statement really mean—and are there data to back it up?

Yes, there are. An analysis completed by the University of Connecticut supported by The Nature Conservancy found that nearly half of Long Island’s gross metropolitan product—\$153 billion in 2013¹—comes from businesses that are *water reliant*, *i.e.*, that rely significantly on fresh or salt water, either directly or indirectly, such that reductions in water quality or availability will negatively affect operations.²



The most serious water impairments make some historically productive activities impossible, such as commercial fishing in areas unable to sustain fish and shellfish due to excess nitrogen and the resulting proliferation of harmful algae. Once a dominant industry, commercial fishing today accounts for only 52 full-time jobs on Long Island.³

At the other end of the spectrum of impacts, poor water quality can increase the costs of doing business on Long Island. For example, the health care sector—one of the island’s largest employers and economic drivers—needs a steady supply of water for a host of functions from treating patients (*e.g.*, dialysis), to cleaning rooms and preparing meals.⁴ Currently, Long Island’s sole-source aquifer provides ample supplies of water for small and large users. Providers such as the Suffolk County Water

¹ http://www.longislandindex.org/data_posts/gross-metropolitan-product-2/

² Yang, Pomeroy & Smith, *An Economy Reliant on Clean Water: The Economic Impacts of Long Island’s Water Dependent Industrial Sectors*, 2016. Using the IMPLAN input-output model (IMpact analysis for PLANning: Minnesota IMPLAN Group, Inc.), the authors computed total impact on direct economic output (value of goods and services), employment, and value added (value added to raw materials) of the most water-reliant LI sectors, listed here in descending order based on number of jobs: health care, real estate, restaurants, residential construction, commercial construction, tourism, food and beverage manufacturing, farming (sectors reliant on fresh water), water treatment/delivery, commercial fishing.

³ *Id.* at p. 28. The number is for “full-time equivalent” jobs, which means the actual number of people who work in commercial fishing is greater than 52 to the extent their jobs are part-time or seasonal. IMPLAN rolls up part-time, seasonal, and full-time jobs into a 2,080-hour year. A job in IMPLAN is defined as the annual average of monthly jobs in that industry, the same definition used by the Bureau of Labor Statistics. Because fishing on Long Island is tied to the seasons, more people work in commercial fishing in summer and fall than in winter and spring.

⁴ The health care sector accounts for roughly 20% of Long Island’s gross metropolitan product.

Authority are able to treat aquifer water to conform to federal pollution standards and sell the treated water at a rate that is less than other utilities. However, if water quality continues to decline, higher treatment costs will be passed onto users. That, in turn, would affect employment, direct value of goods and services, indirect value added to the economy, and the costs of care. Higher water treatment costs will have a negative impact on all water reliant businesses.

ROOMS WITH A VIEW

Real estate, where much of Long Island's economic value is concentrated,⁵ is influenced significantly by the availability and proximity of both fresh and salt water. An ongoing study commissioned by The Nature Conservancy conducted by economists at Stony Brook University found that a waterfront location can more than double the value of a home on Long Island.⁶ With Long Island having over 500 lakes and ponds, thirty miles of freshwater streams,⁷ numerous creeks and canals, and some 1170 miles of bay and ocean coastline,⁸ waterfront property is a large segment of the housing market at all price levels—from modest to high end.

In addition to waterfront location, water *quality* also affects real estate values, not just on the shore. Based on data from Suffolk County towns, the Stony Brook study found that a one-foot increase in water clarity is associated with a 2-4% increase in price as far inland as 1,000 meters.⁹ Studies in Florida, Cape Cod, Chesapeake Bay, and Lake Erie also found a correlation between visibly better water quality and real estate values, as much as an overall increase of 14% for a one-foot improvement in clarity, with effects on values as far inland as a mile.

The linkage works the other way, too. Declines in water quality are associated with declines in real estate value. A Florida study found that after a summer of turbid, slimy water caused by unusual water releases from Lake Okeechobee, real estate in Martin County lost \$488 million of its value. The study included only single family homes, not condominiums and businesses, so the actual impact of the unpleasant water conditions was likely much larger.¹⁰

⁵ The real estate sector accounts for roughly 12% of Long Island's gross metropolitan product.

⁶ Dvarkas, A. & Nepf, A., *Value of Natural Capital for Community Resilience Planning – Hedonic Analysis*, 2016, at 14-15 (Phase I preliminary report). The study used two modeling approaches. Under one approach "being a waterfront rather than a non-waterfront parcel would be expected to more than double the predicted value of the home." Under the other approach, "being located on the waterfront increased the predicted price of a parcel by approximately 60%." This study remains active as the authors work to add data sets from other communities.

⁷ <http://www.dec.ny.gov/outdoor/7951.html>

⁸ Coastline defined as Nassau and Suffolk portions of Long Island Sound, the Atlantic Ocean, South Shore Estuary Reserve, and Peconic Bay: 188 miles in Nassau County, <http://nassauida.org/Public/Home.aspx>, and 980 miles in Suffolk County. <http://www.ny.gov/counties/suffolk>

⁹ Water clarity as measured by secchi disk tests performed at Suffolk County water monitoring stations was used as the measure of water quality because clarity can be readily perceived by the human eye, which is not true of other variables such as nutrient levels. Dvarkas at 11.

¹⁰ Florida Realtors, *The Impact of Water Quality on Florida's Home Values*, March 2015.

On Long Island, where local governments and school districts are funded mainly by property tax revenues, the documented relationship between water quality and housing value has consequences for everyone. If deteriorating water quality reduces the value of waterfront homes—in all price categories—that will reduce tax revenues, possibly resulting in higher taxes for all homeowners and/or reductions in public services to the extent that public officials are unwilling to raise taxes on everyone.



Similarly, the robust tourist economy of Long Island depends on the quality of beaches, bays and recreational opportunities. The University of Connecticut analysis found that after health care and real estate, for most of Long

Island's thirteen towns, tourism is the third largest contributor to economic output of all water-reliant sectors.¹¹

THE PEOPLE UNDERSTAND—AND ARE WILLING TO PAY

Another way of answering “how much is water worth?” is to ask how much people are willing to pay for better water quality. In April, 2013, The Nature Conservancy did just that in a public opinion survey. Based on this research, a Conservancy economist determined that, on average, a Long Island household would be willing to pay \$17.20 a month to protect and restore our water resources. When multiplied by the number of Long Island households and taken over a period of 20 years, Long Island residents are willing to invest as much as \$2 billion dollars of their own money for cleaner water in the next two decades.

Importantly, those revenues and the matching funds they could leverage from Federal, State and local sources, would pay for many improvements to reduce the polluting effects of Long Island's outdated wastewater treatment infrastructure.

INVEST IN WATER, ADD ECONOMIC VALUE

Investments in clean water help protect our jobs, businesses, public services, and quality of life. Such investments also *add* economic value. This was underscored by the consulting firm hired to evaluate the costs and benefits of sewerage additional homes in southeastern Islip. The firm categorized the benefits as higher property

¹¹ Yang, Pomeroy and Smith, *supra*, at 32-33.

values, increased recreation-related expenditures, greater shellfish productivity, and business expansion opportunities—all of which could mean more jobs and income for local residents. The total economic benefit was computed as \$143 million per year, amounting to \$1.034 billion over 20 years, discounted to present value.¹²

The Islip estimates dovetail with national studies reporting significant economic gains from infrastructure investment. The National Association of Manufacturers pegged the gain at \$3.00 by 2030 for every \$1.00 invested in infrastructure, in addition to other benefits such as increased take-home pay.¹³ A 2009 study by the US Conference of Mayors found that investment in drinking water/wastewater infrastructure is a major priority across the country. Some of the best returns on public investment are realized in the area of water infrastructure.



INVESTMENTS IN WATER – A 21ST CENTURY IMPERATIVE

Declining water quality has the potential to interfere with nearly half of the island’s economic activity—over \$75 billion per year based on 2013 figures. While actions to restore and protect our water may appear costly, the loss of jobs and revenue from failure to maintain water quality and quantity will be more costly in the long run.

Discharging sewage into rivers and bays may seem like a practice that only happens in less developed countries. Yet Long Island’s reliance on cesspools and old-fashioned septic systems is equally outdated. These systems allow nitrogen from human waste to flow into our groundwater and surface waters, triggering red and brown tides in our bays, killing fish and turtles, and putting neurotoxins in our shellfish and swimming waters. Harmful blooms caused recreation bans at more ponds on Long Island than anywhere else in New York State in the summers of 2016 and 2015.

We cannot let this trend continue. Residents in Nassau and Suffolk want to protect the environment—and the economy—by upgrading the island’s wastewater infrastructure.

Now is the time to act. Otherwise, our water quality problems will only worsen, making solutions both more complicated and more expensive.

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¹² P. W. Grosser Consulting, *Sewer Feasibility Study, Southeastern Quadrant, Town of Islip*, at 53.

¹³ <http://www.nam.org/Newsroom/Press-Releases/2014/09/New-Report-Shows-Status-Quo-on-Infrastructure-Hampers-Competitiveness/>