

Historic Pollution in the Hudson River: Reading

A POOR SEWERAGE SYSTEM.

New York Times (1857-Current file); Jul 28, 1890; ProQuest Historical Newspapers The New York Times (1851 - 2
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A POOR SEWERAGE SYSTEM

***NEW-YORK NEEDS A NEW METHOD
OF DISPOSING OF REFUSE.***

HOW THE MATTER IS VIEWED BY SANITARY ENGINEERS—THE SYSTEM EMPLOYED IN WORCESTER.

There is a perfect agreement upon the part of the sanitary engineers, the physicians, and all other intelligent people of New-York who have given the matter any consideration that the sewerage system of New-York City is an abomination, a relic of the pre-sanitary age, when it was thought that the way to get rid of such objectionable matter as sewage was to set it running down hill into the water. It naturally follows that there is a feeling widely prevalent in New-York that some other method of disposing of the sewage of the city should be provided than the present one of emptying it into the rivers which flow about Manhattan Island.

It is estimated that 100,000 tons of solid matter are annually deposited in the harbor of New-York by the city sewers, and no argument would seem necessary to show that these deposits are not only filling up the harbor but that they are filling it up with matter which will sometime give evidence that it is far from being innocuous to the health of the people. It is clearly the duty of those who have the management of this city in their charge to consider what should be done with the sewage in order to dispose of it in accordance with the requirements of decency and with a proper regard to the public health.



ALBANY'S DANGEROUS BASIN.

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ALBANY'S DANGEROUS BASIN.

The main feature of the meeting was the report of Mr. Gardiner as Director of the New-York State Survey, and that part of it relating to Albany created much surprise among the members of the board. Mr. Gardiner said that he had heard rumors some time ago to the effect that the Albany Basin was becoming a public nuisance, but he paid little attention to them. Then he received a number of letters from members of boat clubs whose floats and houses were near the basin complaining of the condition of the water, and he came to the conclusion that it was time to investigate the complaints. The letters stated that the gases arising from the basin were obnoxious and productive of sickness and malaria. Mr. Gardiner investigated the subject, and found that an alarming state of affairs existed. When the basin was opened it was intended to keep the bottom covered by at least seven feet of water. Around it are the wharves of the Albany steamboats, the leading hotels, and the Post Office. Into this basin the city has for some time emptied all its sewage, and as a result it has become so filled with the animal and vegetable matter contained in this sewage that two mud flats of considerable size are now exposed at low tide, and bubbles of gas are constantly arising from the mass of decomposing matter beneath the water. The steamers and ferryboats passing to and fro are constantly stirring up this decomposing matter and adding to the nuisance and danger to health. The most dangerous feature of the case arises from the fact that the city of Albany takes its water supply from the river within 1,500 feet of this basin, which is reeking with filth, and when the tide is going out of the basin, the polluted water is taken by the current along the bank to the pipes through which the city's water supply is drawn. Mr. Gardiner demonstrated this fact by experimenting with floats, and thus determining the direction in which the water of the basin moved at ebb tide. He recommended that the city of Albany be directed not to pour its sewage into the basin, and that the Legislature be asked to make an appropriation for the purpose of dredging it to such a depth that the mud flats would no longer be exposed at low tide. The matter was laid over until the next regular meeting of the board.

A Synopsis of New York City's Sewage Treatment

The Hudson River was referred to as an “open sewer” throughout much of the nineteenth and early twentieth centuries. Floating screens were constructed at the beaches on Coney Island to protect bathers from wastewater in 1886. Illnesses resulting from raw sewage, such as cholera, were a continual problem, along with complaints about the smell and the unsightliness of the water. Seas of floating garbage were reported within 15 miles of Manhattan, and fisheries started to decline. In 1906, the Metropolitan Sewerage Commission of New York began to study the pollution issue and developed a plan to improve water quality. During this time, 26 cubic meters of untreated sewage was discharged into the harbor *every second*. Sewage treatment plants began to be built in the 1930s, and by 1952, eleven water pollution control plants were in operation in New York City.

However, problems continued due to offshore sewage sludge dumping and the lack of secondary treatment plants. New York City, along with other parts of New York state and New Jersey, was dumping sewage sludge in the ocean, just twelve miles from the harbor. The most significant improvements to water quality took place in the 1970s, when existing sewage treatment plants were upgraded to secondary treatment, and additional primary treatment plants were constructed in order to comply with the Clean Water Act of 1972. The Clean Water Act mandated that treatment plants remove 85% of biological oxygen demand (BOD) and total suspended solids (TSS). Primary treatment removes materials that can be easily collected from the raw wastewater and disposed of including large particles (rock, sand, gravel), human waste and floating materials. This step is done entirely with machinery, and is often referred to as mechanical treatment. Secondary treatment is designed to substantially reduce the biological content of the sewage using aerobic biological processes, when bacteria, fungi, and protists decompose the organic materials. During this process microbes actually eat and digest potentially harmful waste. The bacteria and solid waste eventually accumulate and settle out in suspension, at which point they are removed from the water, dried, and become nutrient loaded ‘sludge’. This sludge is sent to a landfill or incinerator, dumped in the ocean, or processed to become fertilizer.

Despite the improvements, lots of untreated sewage (8.8 cubic meters per second) continued to be discharged from Manhattan up through the 1980s because of delays to plant upgrades. Now that upgrades have been made, the city's water treatment plants remove more than 99.9% of the city's dry-weather sewage (overflows still occur during wet weather events). Offshore dumping of sludge still continues, although the city now has to dump its waste further offshore (the new site is 106 miles offshore instead of twelve). Today's problems are a result of the effects of combined sewage overflows, which still dump raw sewage into the rivers during and after storm events. Sewer systems were built to collect both sewage and runoff from streams all in the same pipe, which should go to a water treatment plant to be cleaned before release into the waterways. However, when there is a lot of rainfall, the treatment plants can't handle all of the extra water, and the sewage and rainwater mix is discharged directly into streams and rivers. There are more than 700 discharge pipes that drain into the harbor of New York City, with many more in the upper parts of the Hudson River.

References:

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