

Chicago River's reversal in 1900 was an 'engineering triumph' that transformed our city

In recent years, the Chicago River itself has undergone a renaissance, from a lifeless industrial waterway into a vibrant public asset, the head of the Metropolitan Water Reclamation District writes.

Chicago just celebrated the 125th anniversary of a remarkable feat of engineering that forever changed the trajectory of the city and set a global precedent for innovation in water management: the reversal of the Chicago River.

In 1900, the Metropolitan Water Reclamation District of Greater Chicago (MWRD), then known as the Sanitary District of Chicago, completed a project that not only altered the course of a river but also redefined how cities safeguard public health and protect vital water resources.

At the close of the 19th century, Chicago's rapid population growth and industrial expansion were outpacing its infrastructure. When it rained, the banks of our waterways would flood and momentarily return Chicago to its marshland past. More alarming, the Chicago River, which naturally flowed into Lake Michigan, carried human and industrial waste from the

city directly into the lake—the same lake that served as the source of Chicago's drinking water.

Once the Sanitary District of Chicago was established in 1889 by the Illinois General Assembly, its first assignment was clear: reverse the flow of the Chicago River, redirecting it away from Lake Michigan to protect the region's water resources.

The solution was as bold as it was unprecedented.

Achieving this mammoth project required the construction of the Chicago Sanitary and Ship Canal, a 28-mile waterway that remains one of the largest earth-moving projects ever undertaken globally. The reversal was officially completed on Jan. 2, 1900, and its impact was immediate and transformative. The water discharged to the Des Plaines River

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In this photo from Sept. 22, 1904, laborers take a break during the construction of the Chicago Sanitary and Ship Canal extension. When the Sanitary and Ship Canal was first completed, it ended at the Controlling Works near Lockport. The Sanitary District of Chicago (now the Metropolitan Water Reclamation District) built the extension to Joliet to allow for complete navigation from Lake Michigan to the Des Plaines River. Provided/MWRD

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where it could be diluted as it flowed into the Illinois River and eventually the Mississippi River.

The canal was named one of the “Seven Wonders of American Engineering” by the American Society of Civil Engineers in 1955. Our chief engineer at the time, Isham Randolph, used this experience to help build the Panama Canal.

The river’s reversal assured the protection of Chicago’s drinking water supply, enabling the city to continue its ascent as a global metropolis.

‘Bold, innovative thinking’ needed on environmental challenges

Today, the Chicago River reversal is recognized as an engineering triumph and landmark achievement in environmental stewardship. It demonstrated the power of proactive, large-scale public works projects to address urgent challenges, laying the groundwork for modern water management practices worldwide

As we reflect on this historical milestone, let us make it a call to action.

We must confront the pressing water challenges of our time. Climate change, aging infrastructure, and contaminants such as microplastics, PFAS “forever chemicals,” and phar-

maceuticals demand the same bold, innovative thinking and investment that defined the Chicago River reversal.

The MWRD remains committed to leading this charge.

Our work has evolved significantly since 1900, yet our mission remains the same: to protect the region’s water resources and the health of its residents. Over the past century, we have pioneered initiatives to improve water quality, manage stormwater, and combat flooding. Our investments in the Tunnel and Reservoir Plan, nutrient management and renewable energy position us as a leader in sustainable water management and support our recognition by international water experts as a “Utility of the Future.”

In recent years, the Chicago River itself has undergone a renaissance. Once dismissed as a lifeless industrial waterway, it has been revitalized into a vibrant public asset. The river now supports thriving ecosystems, recreational activities, and economic development, reflecting the enduring value of the MWRD’s work. None of this would have been possible without the foundational achievement of reversing the river’s flow 125 years ago.

The reversal of the Chicago River exemplified achievements in engineering, public health and environmental protection and reflected America’s “can do” spirit.

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