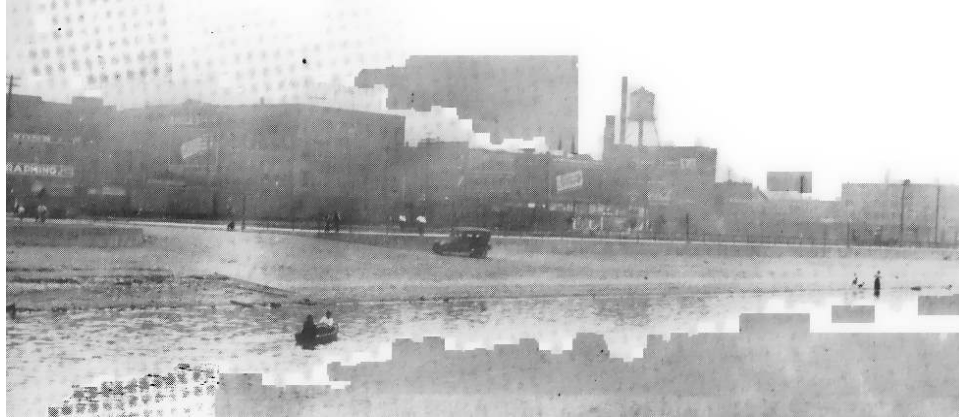


“Waterway Observes Its 50<sup>th</sup> Anniversary.” *The Waterways Journal Weekly*. (September 3, 1983): 5.

## Waterway Observes Its 50<sup>th</sup> Anniversary



Courtesy Illinois Waterway Project Office, Rock Island Engineer District  
Peoria's Municipal Wharf as photographed on June 25, 1913

By JOHN LAMB

*(This is the second of two parts of Professor Lamb's story, written for the Illinois Association of Port Districts, Joliet, Ill., as part of the commemoration of the opening of the Illinois Waterway in 1933. The first part, about the Illinois and Michigan Canal, ran in the August 27 issue.)*

The financial difficulties of the state during the construction period of the Illinois and Michigan Canal required a cutback in funds, and as a result the canal between the Chicago River and Lockport was not (as had originally been planned) cut deep enough to allow boats to pass without locking in or out of the Chicago River. As time passed, another problem occurred. The growth of Chicago created a sewage problem. Since the burgeoning city obtained its drinking water from Lake Michigan, it could not dump its sewage there. In 1871 a deep cut

was made eliminating two locks on the Illinois and Michigan Canal between Chicago and Lockport, allowing lake Michigan to flow into the Chicago River, reversing its flow away from the lake and clearing up the city's sewage problem.

However, on the Illinois River there was a problem. In the summer the river fell so low that navigation to LaSalle, the termination of the Illinois and Michigan Canal, was impossible. As a result, in 1869 construction started on a lock and dam at Henry, Ill., to improve the navigability of the river. In 1877 an additional lock and dam was built at Copperas Creek as an extension of the Illinois and Michigan Canal.

In 1866 a survey of the area between Chicago and LaSalle was made (by order of Congress) by

William Gooding, former chief engineer of the Illinois and Michigan Canal and Gen. James H. Wilson of the U.S. Engineers. This survey concluded that a canal should be built that would reverse the flow of the Chicago River and would be eight feet in depth. From Joliet down, it was stated the increased flow from Lake Michigan from the suggested canal would allow slack water navigation on the Des Plaines and the Illinois if dams and locks were constructed.

### That Sewage Again

The first step toward the realization of this Illinois Waterway was again the result of the sewage problem in Chicago. The deepening of the Illinois and Michigan Canal was founded to be insufficient for the task of cleaning the Chicago River. As a result, in 1892 the Chicago Metropolitan

Sanitary District was formed and began digging the Chicago Ship and Sanitary Canal. This canal, finished in 1900, was the largest canal built in the 19<sup>th</sup> century. It is 12 feet deep and runs from Chicago to Lockport.

It was designed not only to pull Chicago's waste away from its drinking water and purify it by aeration, but also as a ship canal. When it was completed, it increased considerably the flow of water in the Des Plaines below Lockport, and in the Illinois. However, its use as a shipping canal was limited because it terminated in Lockport. In 1907 the Chicago Metropolitan Sanitary District did two things to increase shipping on the canal. They dug a sanitary drainage canal from the Calumet River to the Sanitary Canal that cut the old Illinois and Michigan Canal in half and ended its usefulness between Lockport and Chicago. At the same time, the sanitary district engineer, Isham Randolph, built a lock at Lockport so boats could go from the Sanitary Canal to the Des Plaines River. He also designed a power station at the same location to control the flow of water from Lake Michigan. In the same year, Mr. Randolph designed a movable dam, a "butterfly dam," at Lockport to stop any uncontrolled flow from Lake Michigan.

### **Locks on Lower Illinois**

In the late 19<sup>th</sup> century, there was also a significant development taking place on the Illinois River. The U.S. Engineers in 1890 began building locks and dams at Kampsville and La Grange on the lower Illinois. This, of course,

increased the navigability of the Illinois, and with the increased flow after the completion of the Sanitary Canal, the major question was no longer insufficient water for shallow draft boats, but what depth was necessary for maximum navigation. From 1890 on the Corps began to take responsibility for navigation on the Illinois below Utica, just above the termination of the Illinois and Michigan Canal. In 1927 they formally took over this stretch of Illinois Waterway.

In the late 19<sup>th</sup> century, major interest shifted to the gap between the end of the Ship and Sanitary Canal at Lockport and the beginning of Illinois River navigation at Utica. It was true that after 1907 boats could lock down from the Sanitary Canal into the Des Plaines River at Lockport, and from the Des Plaines in Joliet lock into the Illinois and Michigan Canal. But the old canal was too small and in a bad state of repair, due to a law that forbade the use of state funds to repair and upgrade it. As a result, agitation began in the 19<sup>th</sup> century for a series of locks and dams between Lockport and Starved Rock that would be much larger than the Illinois and Michigan Canal. By the 1920s boats were operating on the Sanitary Canal between Lockport and Chicago that were too big to lock into the Des Plaines River and the Illinois and Michigan Canal.

### **State Bond Issue**

In 1908 the voters of Illinois authorized a bond sale to raise \$20 million to build a series of locks and dams between Lockport and Utica to provide slack water

navigation on the Des Plaines and the Illinois. The dams would also supply electricity from water power as was already being done by the Sanitary District at its power station at Lockport. The question of the design of the waterway, the depth and flowage and other problems, delayed the start of construction until 1921.

Then it was determined that it should have an eight-foot depth, with locks 110 by 600 feet, and sufficient lockage for cargoes of 6-9 thousand tons. There would be five locks and dams, and four of them were to have electric generating capacity. (The electric power component was eventually dropped.) Construction was started on the lock at Marseilles, then the Lockport lock. One of the last built was outside Joliet at Brandon Road. This was because through Joliet the level of the river had to be raised above the surrounding city, and controlled by means of concrete gravity walls that had to be built before the lock and dam.

Originally this stretch was known as the "Illinois Waterway," but after 1930, when the federal government took control of the entire length, the name Illinois Waterway was given to the entire Chicago to Grafton route. The Lockport and Starved Rock segment is a system using slack water navigation as the natural flow of the Des Plaines and the Illinois was increased considerably by 1,700 cubic feet, a second flow into the system from Lake Michigan via the Sanitary Canal. However, in 1930 the state of Illinois' \$20 million bond issue was running out and since the state

couldn't finish it, the project was taken over by the federal government, which completed it at a cost of \$7 million. As a result, for the first time, the entire waterway from Chicago to Grafton was controlled by one agency, the U.S. Engineers.

### **A Basic Transport System**

On June 22, 1933, the Illinois Waterway was opened for traffic. Its completion had been a piecemeal effort done in part by the Chicago Metropolitan Sanitary District, the state of Illinois and the U.S. Engineers. But as we

have seen, the history of its development goes back to 1673 and the explorations of Jolliet and Marquette, who discovered a phenomenon unique in the world, two huge inland bodies of water, the Great Lakes and the Mississippi Valley, which were separated by only a 10-foot high ridge at Chicago. From this fact came the Illinois and Michigan Canal, the development of Chicago, and the basic transportation system of the Midwest. The opening of the Illinois Waterway was culminating exploitation of this fact.

The development of the waterway didn't end in 1933. In 1935 the Corps began construction of new locks and dams at LaGrange and Peoria, and the old locks and dams at Kampsville and LaGrange were removed. In 1955 the Calumet-Sag Canal connecting the Calumet River to the waterway was widened. But 1933 was the year in which the vision of Jolliet and his superior, Count Frontenac, was realized, a boat could go freely from Niagara Falls, or Montreal, to the Gulf of Mexico.