# Locks & Dam 14

Mississippi River, *Pleasant Valley, Iowa*

**Construction:**
1935-1940
**General Contractors:**
Locks and Dam:
Central Engineering Company
Davenport, Iowa

## Description

Locks and Dam 14 is four miles below LeClaire, Iowa, and 493.3 miles above the confluence of the Mississippi and Ohio rivers. The site is also 3.6 miles below the head of the notorious, rock-bedded, Rock Island Rapids. The LeClaire Lock and the remains of the LeClaire Lateral Canal, built in 1921-1924 to bypass this treacherous stretch of river, are located along the Iowa shore.

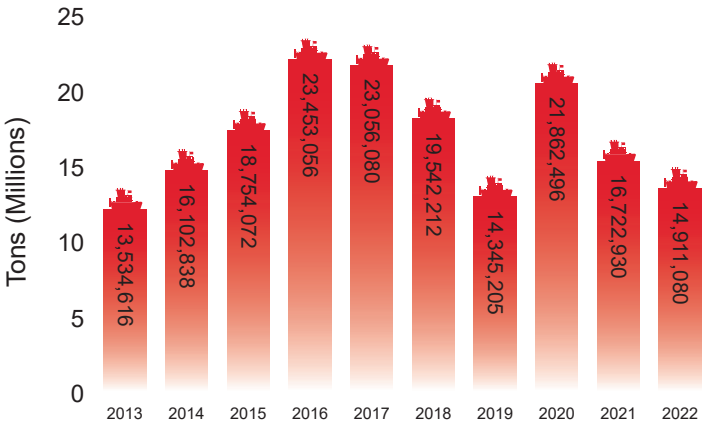
The main lock's dimensions are 110 by 600 feet. The dimensions of the LeClaire Lock, which is used as an auxiliary lock, are 80 by 320 feet, with a low-water depth of eight feet at the upper sill and seven feet at the lower sill. The main lock's maximum lift is 11 feet with an average lift of 9.8 feet. It takes approximately eight minutes to fill or empty the main lock.

The movable dam has 13 non-submersible Tainter gates (20 feet high by 60 feet long) and four submersible roller gates (20 feet high by 100 feet long). The dam system also includes an earth and sand-filled dike. It takes nine hours for water to travel from Lock and Dam 13, in Fulton, Illinois, to Lock and Dam 14.

## Locks and Dam 14 Commodity Tonnage (2022)

| | |
|---|---|
| Food and Farm Products | 7,313,920 |
| Chemicals and Related Products | 3,131,680 |
| Crude Materials, Inedible, Except Fuels | 1,585,480 |
| Primary Manufactured Goods | 1,542,660 |
| Petroleum and Petroleum Products | 673,900 |
| Coal, Lignite, and Coal Coke | 580,000 |
| Manufactured Equipment & Machinery | 54,640 |
| Waste Material | 24,000 |
| Unknown or Not Elsewhere Classified | 4,800 |
| **Total Tonnage** | **14,911,080** |

## Annual Tonnage (10 Year- Historical)

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## History/Significance

Construction of Lock 14 began in August 1935, and was completed on December 22, 1936. Construction of Dam 14 was begun in November 1936, and was completed in December 1938. The structure was placed in operation on June 14, 1939.

The Corps built the oldest elements of this complex between 1921 and 1924, during the six-foot channel project. As part of that channelization, the Corps built a longitudinal dam paralleling the Iowa shore from the head of the Rock Island Rapids at LeClaire, to the head of Smith's Island. The dam formed the riverward wall of the LeClaire Canal, by which vessels could bypass the rapids. The Iowa shore served as the canal's landwall. Most of the longitudinal dam was submerged when Dam 14 was built; however, a portion of the original canal near the dam is still used as a mooring and storage site.

The Hunter Steel Company plant, subcontractor for structural steel, miscellaneous metal, and operating machinery was located at Neville Island, Pennsylvania, immediately below Pittsburgh. During the extreme high water on the Ohio River in March 1936, this island was flooded, necessitating closing down the steel plant. A time extension of 12 days was granted to compensate for delays in gate erection due to time lost in the fabrication of structural steel.

Extremely cold weather halted lock construction for 18 days during the winter of 1936, and excessively high temperatures shortened work shifts during the summer but no extensions of time were granted due to weather.

The lock and dam elements of the complex were completed at a federal cost of $5,472,000.

## Vessel & Lockage Data (2021)

| | |
|---|---|
| Average Delay - Tows (Hours) | 2.1 |
| Barges Empty | 4,310 |
| Barges Loaded | 10,894 |
| Commercial Vessels | 2,436 |
| Commercial Lockages | 3,196 |
| Other Vessels | 146 |
| Other Lockages | 136 |
| Recreational Vessels | 467 |
| Recreational Lockages | 336 |
| Total Vessels | 3,049 |
| Total Lockages | 3,667 |

## The 9-Foot Channel Navigation Project

The 9-foot Channel Navigation Project includes 37 lock and dam sites (42 locks) on 1,200 river miles in Illinois, Iowa, Minnesota, Missouri and Wisconsin. Constructed largely in the 1930s, it extends from Minneapolis-St. Paul on the Upper Mississippi River to its confluence with the Ohio River near Cairo, Illinois, and up the Illinois Waterway to the T.J. O'Brien Lock in Chicago.

The system is often compared to a stairway with the "treads" being the pools of water created by each dam, with the locks serving as "risers," carrying boats from one river pool to the next like an elevator. This system of locks and dams provides what the rivers in their natural states couldn't – a dependable nine-foot depth for commercial navigation.

Operating the locks and dams is a continuous job as tows and recreational vessels lock through year-round, if weather conditions permit. The structures have long outlived their life expectancy but continue to operate efficiently thanks to the hard work and dedication of USACE employees who operate and maintain the structures.

The inland waterway navigation system is essential to the economy of the Midwest as well as the nation and world. More than 580 facilities ship and receive commodities within the Nation's Corn Belt Ports Statistical Area. Grains (corn and soybeans) dominate traffic; cement and concrete products are the second largest group. A modern 15-barge tow transports the equivalent of 1,050 semi-trucks (26,250 tons, 937,387 bushels of corn, or 240 rail cars). On an annual basis, the 9-foot channel project provides billions of dollars in transportation cost savings to the navigation industry.

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