LaGrange Lock & Dam

(Versailles, Illinois)
Illinois River

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

Construction: 1936-1939

Congressional District: IL-18

Description

LaGrange Lock and Dam is 80.2 miles above the confluence of the Illinois River with the Mississippi river at Grafton, Illinois, 7.8 miles below Beardstown, Illinois.

LaGrange Lock and Dam consists of a 1,066-foot-long dam and a 110-foot-wide by 600-foot-long lock. The maximum lift is 10 feet with an average lift of 4.5 feet. It takes approximately 10 minutes to fill or empty the lock chamber.

LaGrange uses a Chanoine wicket dam, the navigable pass type. The wicket section is 436 feet long containing 109 wickets. Each wicket is 3.75 feet wide by 14.92 feet high, with a .25-foot gap between wickets. From 1987-1991, a major rehabilitation changed the physical components of the dam and operating procedures by replacing 26 of the original 135 wickets with a single 84-foot long submersible Tainter gate adjacent to the lock wall.

It takes 24-36 hours for water to travel from Peoria Lock and Dam to LaGrange during flood or high flow conditions.

History/Significance

The lock opened in 1939. Following the Supreme Court's decree of April 21, 1930, limiting the diversion of water from Lake Michigan, a new navigation plan was developed calling for removing four old locks and dams at Henry, Copperas Creek, LaGrange and Kampsville; new locks at LaGrange and Peoria, and a dam on the Mississippi River at Alton, Illinois, to provide the required navigation depth from the mouth of the Illinois to LaGrange. The lock is used only during low and moderate river flows when the wicket dams are raised to maintain the nine-foot navigation depth. During high flows, the wickets are lowered and open river conditions prevail.

LaGrange is one of only two wicket dams on the Illinois Waterway. The lock and dam elements of the complex were completed at a cost of $2,744,592.

Annual Tonnage (20-Year Historical)

Year	Tons	Year	Tons	Year	Tons	Year	Tons
2017	28,776,710	2012	24,589,608	2007	29,046,034	2002	35,858,094
2016	28,188,393	2011	25,355,072	2006	32,903,584	2001	36,729,826
2015	24,146,844	2010	25,233,087	2005	31,708,944	2000	35,164,245
2014	27,199,448	2009	25,099,513	2004	34,681,667	1999	35,597,851
2013	20,179,192	2008	26,690,243	2003	35,114,129	1998	35,090,916

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Commodity Tonnage (2017)

All Units (Ferried Autos, Passengers, Railway Cars)	-
Coal, Lignite, and Coal Coke	632,548
Petroleum and Petroleum Products	3,833,055
Chemicals and Related Products	6,171,421
Crude Materials, Inedible, Except Fuels	2,994,472
Primary Manufactured Goods	3,070,689
Food and Farm Products	11,952,495
Manufactured Equipment & Machinery	56,930
Waste Material	10,900
Unknown or Not Elsewhere Classified	54,200

Vessel & Lockage Data (2017)

Average Delay - Tows (Hours)	7.95
Average Processing Time (Hours)	0.8
Barges Empty	8,717
Barges Loaded	17,282
Commercial Vessels	2,820
Commercial Flotillas	2,817
Commercial Lockages/Cuts	3,695
Non-Vessel Lockages	-
Non-Commercial Vessels	14
Non-Commercial Flotillas	14
Non-Commercial Lockages/Cuts	14
Percent Vessels Delayed (%)	44
Recreational Vessels	38
Recreational Lockages	16
Total Vessels	2,872
Total Lockages/Cuts	3,725

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 and up the Illinois Waterway to the T.J. O'Brien Lock in Chicago.

The maintenance needs of this aging infrastructure have surpassed annual operations and maintenance funding. This limited funding has adversely affected reliability of the system and has primarily resulted in a fix-as-fail strategy, with repairs sometimes requiring days, weeks or months. Depending on the nature of a failure and extent of repairs, shippers, manufacturers, consumers and commodity investors can experience major financial consequences. Additionally, today's 1,200'-long tows must split and lock through in two operations within the Project's 600' chambers. This procedure doubles and triples lockage times, increases costs and wear to lock machinery, and exposes deckhands to higher accident rates.

More than 580 facilities ship and receive commodities within the Project. 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). In 2016, the 9-foot channel project generated an estimated $2 billion of transportation cost savings compared to its approximately $246 million operation and maintenance cost.

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