

## Kentucky

The State of Kentucky borders 664 miles of the Ohio River, from mile 318 through mile 981 where the Ohio flows into the Mississippi River. The state also contains 64 miles of the Tennessee River, 102 miles of the Cumberland River, the entire 103 navigable miles of the Green River, and four navigable miles of the Licking River. The 10 navigable miles of the Big Sandy River border eastern Kentucky.

In 2008, over 98 million tons of commodities (mostly coal, aggregates and petroleum) moved to, from, and within Kentucky. These commodities had a combined value of almost \$10.1 billion. Coal made up 47% of this tonnage, followed by aggregates with 28% and petroleum at 10%.

Kentucky 2008 Waterborne Commerce To, from and within the State (values in millions of dollars)					
Commodity	Shipped	Received	Within	Total	Value
Coal	27,252,490	8,620,550	10,892,334	46,765,374	\$1,792
Petroleum	1,526,133	7,866,981	511,874	9,904,988	\$1,525
Crude Petroleum	0	**	0	**	**
Aggregates	18,483,875	2,736,497	6,093,282	27,313,654	\$1,513
Grain	2,395,021	202,249	64,830	2,662,100	\$473
Chemicals	565,750	2,068,427	**	2,634,177	\$879
Ores/ Minerals	0	1,815,302	**	1,815,302	\$146
Iron & Steel	975,613	1,400,848	262,015	2,638,476	\$2,163
Other	2,818,275	1,139,380	514,418	4,472,073	\$1,631
<b>TOTALS</b>	<b>54,017,157</b>	<b>25,850,234</b>	<b>18,338,753</b>	<b>98,206,144</b>	<b>\$10,122</b>
<p><b>** Insufficient barge operators to release this tonnage – included in "Other Commodities"</b>  <b>Source: U.S. Army Corps of Engineers Waterborne Commerce Statistics</b>  <b>Shipments on Ohio River Basin Waterways Only</b></p>					



**WATERWAYS**  
COUNCIL, INC.

801 North Quincy Street  
Suite 200  
Arlington, VA 22203  
(703) 373-2261

[www.waterwayscouncil.org](http://www.waterwayscouncil.org)

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An analysis of the Ohio River basin waterborne commerce data for the State of Kentucky shows that over 54 million tons of commodities were shipped on the river system out of the state. A sizeable portion of this tonnage (27.2 million tons) consisted of coal. Docks in the state received over 25 million tons, with coal again being the largest commodity. Over 18 million tons moved within the state. In 2008, the 98 million tons shipped to, from and within Kentucky had a value of \$10.1 billion.

Kentucky docks shipped commodities by barge to 17 states, and received commodities from 16 states. The leading state shipped to was Louisiana, which received over 13 million tons of material (primarily aggregates) worth \$1.2 billion. The leading state shipping by barge to Kentucky was West Virginia, which transported 8.6 million tons. Louisiana shipments of high-value commodities such as petroleum, iron/steel, aggregates and chemicals to and from Kentucky were worth over \$2.5 billion.

Kentucky 2008 Commodities Shipped by Barge to and from Other States (values in millions of dollars)							
Shipments To	Commodity			Shipments From	Commodity		
	Tons	Value	Top		Tons	Value	Top
Louisiana	12,944,145	\$1,187	Aggregates	W. Virginia	8,643,958	\$822	Coal
Tennessee	12,647,791	\$724	Coal	Louisiana	6,019,498	\$1,324	Petroleum
Ohio	10,321,103	\$614	Coal	Ohio	3,362,118	\$706	Coal
Alabama	4,436,035	\$229	Coal	Indiana	3,129,546	\$283	Aggregates
W. Virginia	4,295,595	\$276	Aggregates	Illinois	1,378,526	\$255	Coal
Source: U.S. Army Corps of Engineers Waterborne Commerce Statistics Shipments on Ohio River Basin waterways only							

There were 199 manufacturing facilities, terminals, and docks in Kentucky that shipped and received tonnage in 2008 (see map). The Port of Louisville, which includes 16 miles of the Ohio River (miles 601 to 616) shipped and received over 7.8 million tons of commodities in 2008, making it the 4<sup>th</sup> largest port in the Ohio River Basin.

More coal is moved by water in the Ohio River Basin than any other commodity. Over 31 million tons of Kentucky coal is shipped by barge to 29 power plants in the basin. As reflected on the map, 8 power plants in Kentucky receive coal by barge. These plants received more than 17.8 million tons of coal in 2008.

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There are 14 navigation locks and dams in Kentucky (see map). There are ten active projects on the Ohio River: Lock and Dam 53, Lock and Dam 52, Smithland, John T. Myers, Newburgh, Cannelton, McAlpine, Markland, Meldahl and Greenup. Kentucky waterways also include Kentucky Lock and Dam on the Tennessee River, Barkley Lock and Dam on the Cumberland River and Locks and Dams 1 and 2 on the Green River.

Ground was broken on Olmsted Locks and Dam in 1996. The Olmsted project consists of twin 1200' locks and a new dam to replace Locks 52 and 53. Construction began in early 1993. The Olmsted project involves underwater foundation preparation, lift-in construction of the tainter gates and navigable pass shells for the dam, floating approach walls, directly connected hydraulic cylinder operation of the culvert valves, miter gates, tainter gates, and a central station to operate both the dam and the twin locks. The project is currently scheduled for a 2012 completion, depending upon funding.

The concrete shells for the Olmsted Dam will be fabricated in the pre-cast yard adjacent to the dam site. The pre-cast yard provides shell fabrication, eliminates cofferdam construction and maintains river navigation during construction.

The McAlpine project added a second 1200' lock in place of the existing 600' lock. Innovations associated with this project include roller compacted concrete walls, wrap around filling and emptying system with in-chamber culverts, a shortened guide wall and reduced cofferdam length. McAlpine's second 1200' lock was completed in 2009.

At John T. Myers Locks and Dam, major repairs of the main chamber associated with heavy use and age force greater future reliance on the inadequately-sized auxiliary chamber. The existing 600' x 110' auxiliary chamber will be extended to 1200'. Cost savings were incorporated into the authorization (base line cost) based on results of the innovative lock design program and model tests at WES. Additional savings have been designed-in based on using an innovative F&E system and float in wall extension and miter gate monoliths. Floating approach wall extensions which were optimized and shortened with physical model tests utilized in conjunction with user industry input will be a part of the project.

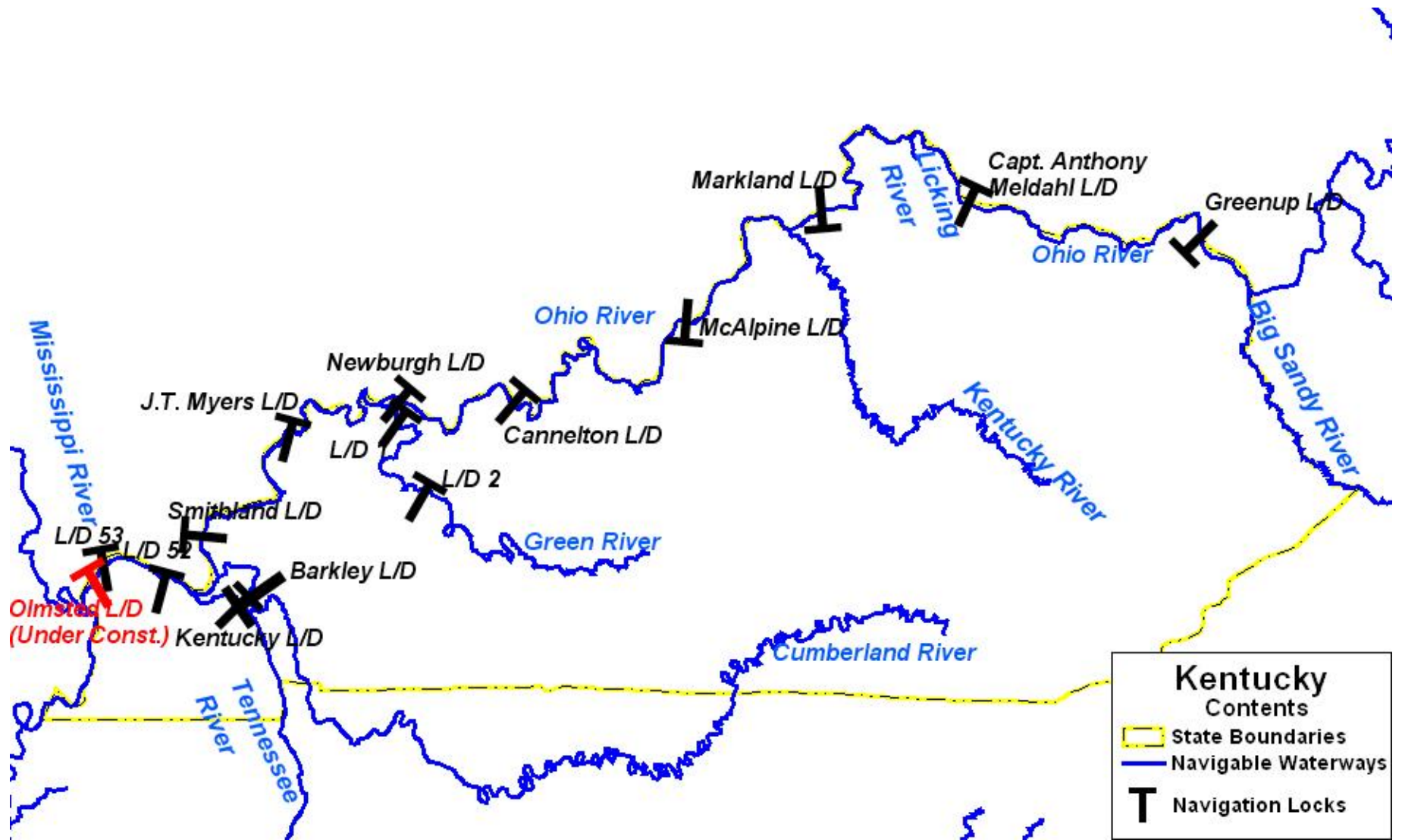
This results in accelerating transit costs. The John T. Myers and Improvements Interim Feasibility Report, a product of the Ohio River Mainstem Study, recommends a 600' extension of the auxiliary chamber and a miter gate quick changeout system at John T. Myers Locks and Dam.

Ground was broken in October of 1999 on a new 110' x 1200' lock at Kentucky Lock. Completion is scheduled for 2016 depending on funding. The existing 110' x 600' lock will continue to be used as an auxiliary. Kentucky Lock and Dam's current single lock chamber is insufficient to handle increasing tonnage. The lack of an auxiliary chamber forces tows to use Barkley Lock during periods of extended delays and closures. Kentucky Lock is at 90% capacity and tows face average delays of 5 to 6 hours. \$30 million was appropriated for work on Kentucky Lock's new chamber in fiscal year 2001.

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<b>Kentucky 2008 Lock Tonnage</b> <i>(in thousands of tons)</i>			
<b>LOCK</b>	<b>UPBOUND</b>	<b>DOWNBOUND</b>	<b>TOTAL</b>
Lock & Dam 53	37,037	39,073	76,110
Lock & Dam 52	51,788	38,272	90,060
Smithland	45,446	34,385	79,831
John T. Myers	47,037	24,939	71,976
Newburgh	52,367	21,224	73,591
Cannelton	38,953	21,129	60,082
McAlpine	39,419	19,336	58,755
Markland	31,594	24,087	55,681
Meldahl	23,404	31,752	55,156
Greenup	23,997	38,027	62,024
Kentucky	23,969	8,119	32,088
Barkley	2,902	471	3,373
Green River L/D 1	3,363	4,877	8,240
Green River L/D 2	3,169	1,152	4,321
<i>Source: U.S. Army Corps of Engineers Lock Performance Monitoring System</i>			

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