



**WATERWAYS**  
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## Greenup Lock & Dams



*Waterways Council, Inc. is the national public policy organization advocating a modern and well-maintained national system of ports and inland waterways.*



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*Location*

Ohio River Mile 341 in Greenup County, Kentucky and Lawrence County, Ohio; 24 miles downstream from Huntington, West Virginia.

*Existing Structures*

Replaced lock and dams 27, 28, 29 and 30 and No. 1 on Big Sandy. 110' x 1200' main lock and 110' x 600' auxiliary lock, constructed in 1959.

*Annual Tonnage and Projected Traffic Growth*

In 2008, 62.0 million tons of commerce worth over \$9.8 billion transited Greenup Locks, of which 62% was coal. Other important commodities included petroleum, aggregates and iron/steel. Projected tonnage is 113 million tons by 2030. (source: *Ohio River Main Stem Systems Study – Interim Feasibility Report*)

*Summary of Problems*

Major repairs of the main chamber associated with heavy use and age force greater future reliance on the inadequately-sized auxiliary chamber. This results in accelerating transit costs. Main upstream miter gate failed due to catastrophic failure of a top anchor strut arm from apparent fatigue, possibly even catastrophic results, increase significantly after 2010.

*Corps of Engineers Actions*

The John T. Myers and Greenup Locks Improvements Interim Feasibility Report of the Louisville and Huntington Districts, a product of the Ohio River Mainstem Study, recommends a 600' extension for the auxiliary lock, a miter gate quick changeout system and rehabilitation of the main lock. The project was authorized by the Water Resources Development Act of 2000. Design work has begun.

# Greenup Locks and Dam

## *Project Description*

The Greenup Locks & Dam project, located on the Ohio River downstream of the confluence of the Big Sandy River, was authorized by the Water Resources Development Act of 2000. The extension of the existing landward auxiliary lock chamber will eliminate costly delays resulting from closures of the main lock chamber. The project consists of two new mooring cells downstream of the dam near the Ohio bank, extending the existing landward auxiliary lock chamber (110' X 600') 600' downstream to create a 110' x 1200' lock chamber, a spare miter gate system, a dry dock for construction and components of the dam and environmental mitigation. Once the lock extension is complete, a rehabilitation of the existing main lock chamber and components of the dam will also be required. Green Locks and Dam were placed in service in 1959.

## *Transportation Importance to the System*

Coal moving through Greenup Locks and Dam to Ohio River Basin electric generating plants, steel mills and other manufacturing facilities originates in the Appalachian coal fields. In 2007, Greenup's 36.2 million tons of coal traffic represented 56 percent of total Greenup traffic. The other 25.9 million tons of traffic through the project is used by the construction industry, steel and other metal manufacturers, petroleum product distributors and chemical plants. Commodities moving through Greenup are used to provide basin homes and industry with electricity, fuel vehicles, build homes, and pave highways. Because all of these activities are central to the economic life of the region, the performance and reliability of this project is an important concern. Greenup has been in heavy service since 1959. This combination of age and usage has resulted in four major closures and numerous shorter closures within the last 15 years causing transportation delays costing towing companies in excess of \$26 million. One event alone, a 2003 main lock chamber closure in excess of 52 days, resulted in transportation delay costs of \$13.2 million and another \$28.7 million in production, transportation mode shift, and other ancillary costs.

## *Project Funding History*

The project will be cost-shared 50/50 with the Inland Waterways Trust Fund, but to date has been funded 100% Federal in the General Investigations account. The total project cost is \$245.4 million, excluding rehabilitation. The remaining benefit to cost ratio is 4.9 to 1 based on an interest rate of 7 percent. The average annual net navigation benefits for this project are \$60.5 million. This project received \$448,000 in investigation funds in FY 10. \$0 was requested in FY 11.

*January 2010*