



**WATERWAYS**  
COUNCIL, INC.

## Lower Monongahela River Locks & Dams 2, 3 & 4, PA



*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*

On the Monongahela River upstream from Pittsburgh, Pa. Locks and Dam 2, Mile 11.2; Locks and Dam 3, Mile 23.8; Locks and Dam 4, Mile 41.5.

*Existing Structures*

Locks and Dam 2 was built in 1906, with a new main 110' x 720' lock and 56' x 360' auxiliary constructed in 1950. The new Braddock Dam was completed in 2004. Locks and Dam 3 was built in 1907 with a 56' x 720' main chamber and a 56' x 360' auxiliary. Locks and Dam 4 was completed in 1932 with a 56' x 720' main chamber and a 56' x 360' auxiliary; a new dam was built in 1967.

*Annual Tonnage and Projected Traffic Growth*

In 2008, 21.7 million tons of commerce worth \$1.7 billion transited one or more of these locks. 86% of this traffic was coal. Other important commodities included aggregates and other commodities. Traffic growth forecast is 37.8 million tons by 2030.

*Summary of Problems*

The dam at L/D 3 has a fixed-crest. It is approaching 100 years of service and its deteriorated condition is a serious concern. Major rehabilitation of the locks at L/D 2 will be needed in about 25 years. L/D 3's locks are the same condition and age as the dam. The condition and size of the locks at L/D 4 are also a concern.

*Corps of Engineers Actions*

The dam at L/D 2 has been replaced by a gated dam, built using an innovative in-the-wet method of fabricating segments off-site and floating them in place. The project has been renamed Braddock Locks and Dam. L/D 3 will be removed. Twin 84' x 720' locks will be built at L/D 4 (to be renamed Charleroi Locks and Dam). Construction on this two-for-three replacement project began in 1994 and is currently scheduled for completion in 2019, at a total cost of \$1.7 billion.

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## *Project Description*

The Lower Monongahela River Project is located in southwestern Pennsylvania and was authorized for construction by the Water Resources Development Act (WRDA) of 1992 to address the deteriorated condition of navigation facilities along the Lower Monongahela River. Specific concerns were the very real risks of navigation system failure related to the poor structural condition of Dam 2, Locks & Dam 3, and Locks 4 on the Monongahela River. Although Braddock Dam was completed in July 2004, the condition and sustained operability of Locks and Dam 3 and Locks 4 remain a significant concern. Locks and Dam 3 was built in 1907. It is among the oldest structures operating in our inland navigation system, and the most structurally deficient navigation facility on the Monongahela River. Under the “two-for-three” replacement plan, this 100 year old Locks and Dam will be removed from the inland waterway system as soon as the 75-year old, undersized Locks 4, are replaced with larger and modernized lock facilities, and Pools 2 and 3 can be adjusted and regulated as one navigation pool by the new gated Braddock Dam.

## *Transportation Importance to the System*

This strategic reach of the Monongahela River is critical to the export of bituminous coal out of the Northern Appalachian coal-fields of southwestern Pennsylvania and northwestern West Virginia, and for the import of fuels and other bulk commodities into the region. The Lower Monongahela River System links the country’s largest metallurgical coke plant and the country’s most productive underground coal mine with the Ohio River and other ports further south. Traffic through the Lower Monongahela River System is projected to increase from the actual 22.6 million tons logged in 2000, to between 24.3 and 31.4 million tons in 2020.

## *Project Funding History*

The project is cost-shared 50/50 with the Inland Waterway Trust Fund. Total project cost is now estimated at \$1.7 billion. Initial projections estimated that the project would cost \$554 million. Approximately \$500 million has been expended through FY 10, leaving a balance of \$1.2 billion to complete the project. In FY 10, \$6.21 was appropriated. The FY 11 request was only \$2 million. These navigation facilities have already outlived their design life, and their respective removal and replacement is critical to keeping the Lower Monongahela River system a reliable and efficient component of the Inland Waterway Navigation System.

January 2010

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## *Economic Impact of Constrained Funding*

The challenge is to regain an efficient funding schedule for the Lower Monongahela River Project through 2016 and to keep existing L/D 3 and Lock 4 safely operating until they can be removed. The Lower Monongahela River Project has already slipped its completion date by 15 years (to 2019) resulting in \$1.2 billion in transportation benefits foregone. Of course, even this completion date is unlikely given current funding levels.

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