



Navigation

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River Operations and Renewables

TVA's Navigation Mission

TVA Act:

To improve the navigability and to provide for flood control of the Tennessee River...

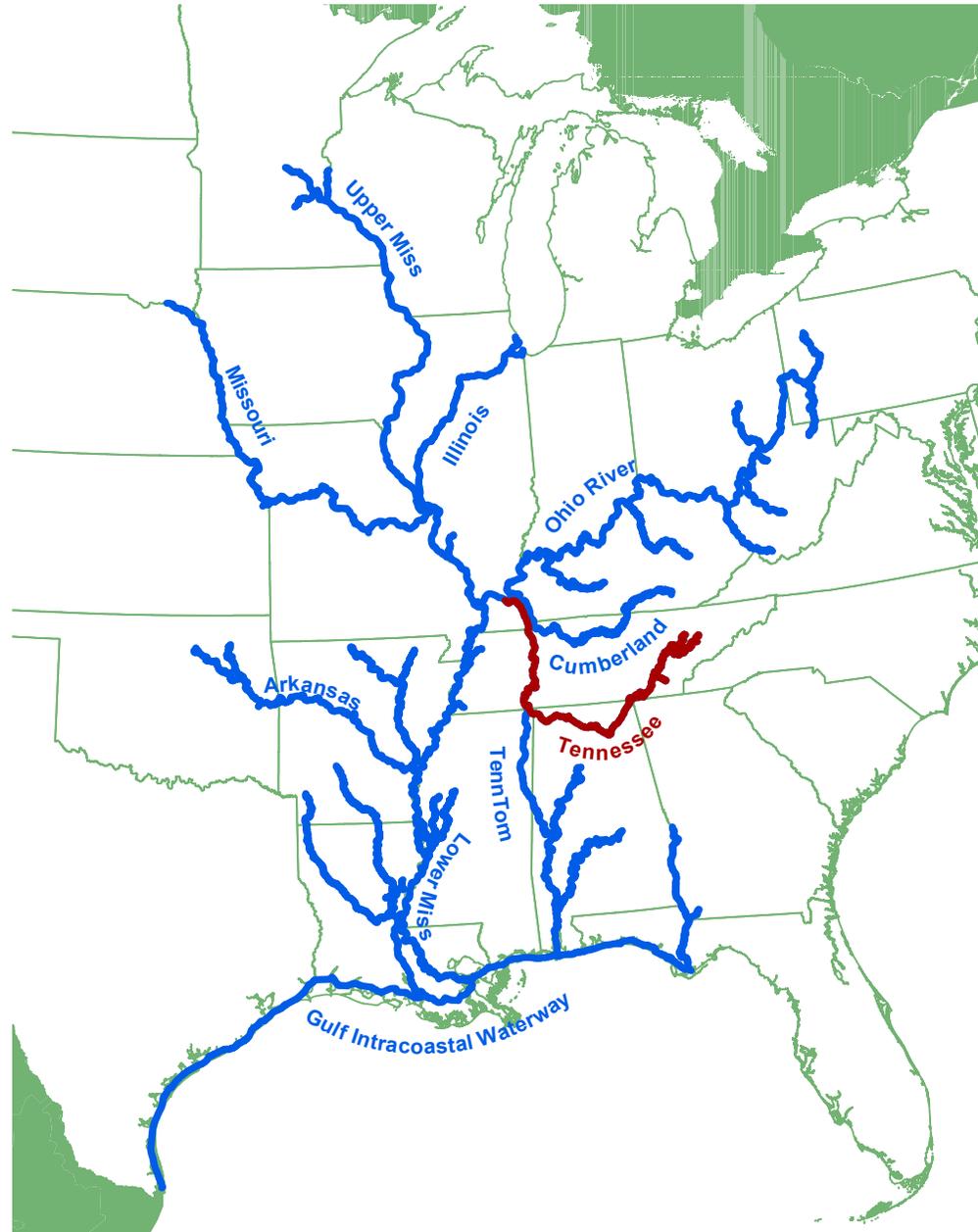
(TVA) shall have power to construct such dams and reservoirs, in the Tennessee River and its tributaries...will provide a nine-foot channel in the said river and maintain a water supply for the same, from Knoxville to its mouth, and will best serve to promote navigation on the Tennessee River and its tributaries...

TVA's Navigation Responsibilities

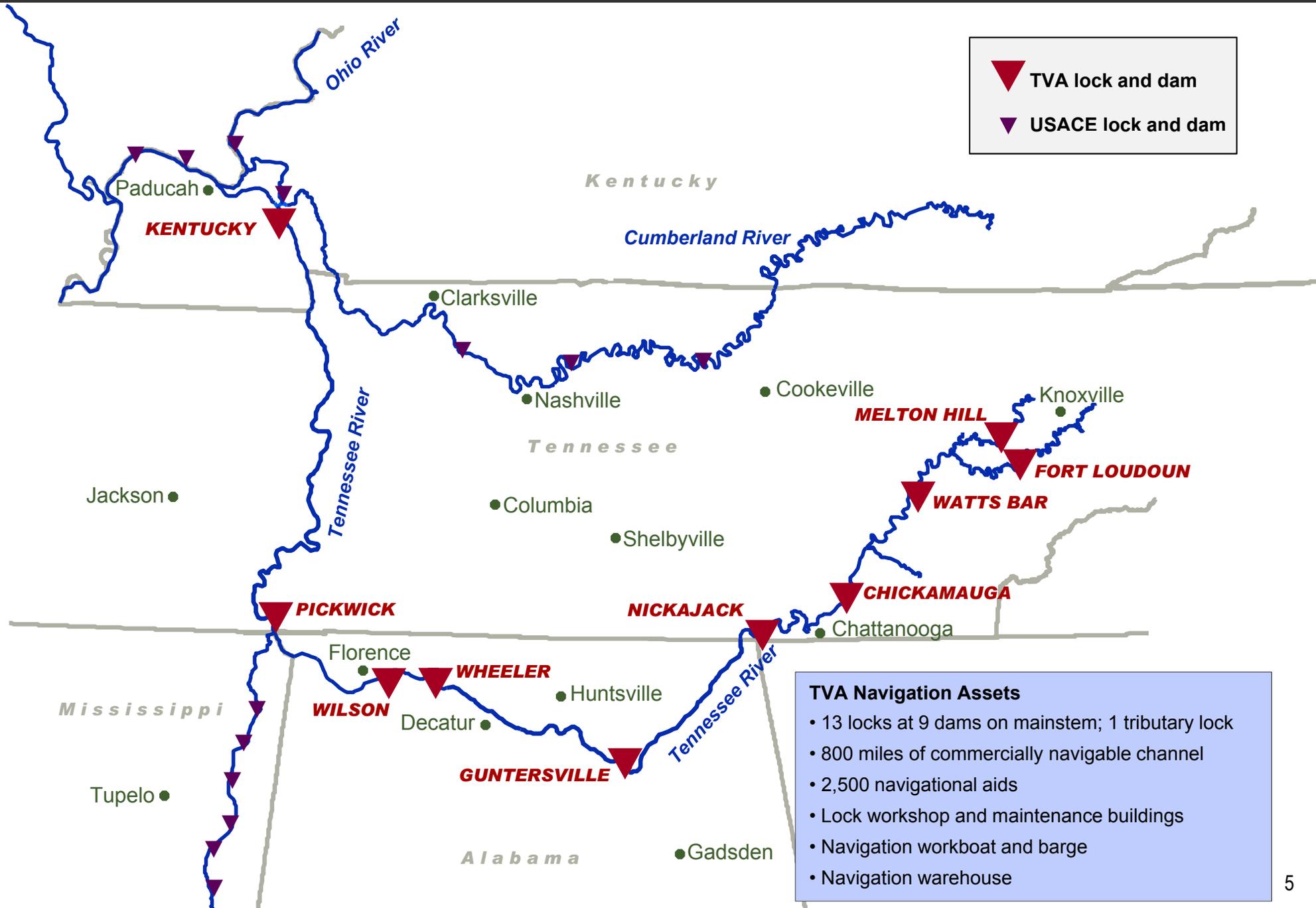
- ◆ On August 29, 2001, the RRSC Navigation Infrastructure Subcommittee recommended, and TVA agreed that:
 - TVA should continue its integrated management of the Tennessee River.
 - Navigation infrastructure should be maintained and improved in order to continue operations at optimal levels
 - TVA should continue its strategic partnerships with other federal agencies to ensure continuity of operation and maintenance of the Tennessee River system and explore additional funding opportunities.
 - TVA should fully support the lock addition project at Kentucky Dam.
 - The system is in immediate jeopardy due to the need for a new replacement lock at Chickamauga Dam and that replacement should be a priority.
 - Necessary funding should be provided in an equitable and timely manner.

TVA Inland Waterway System

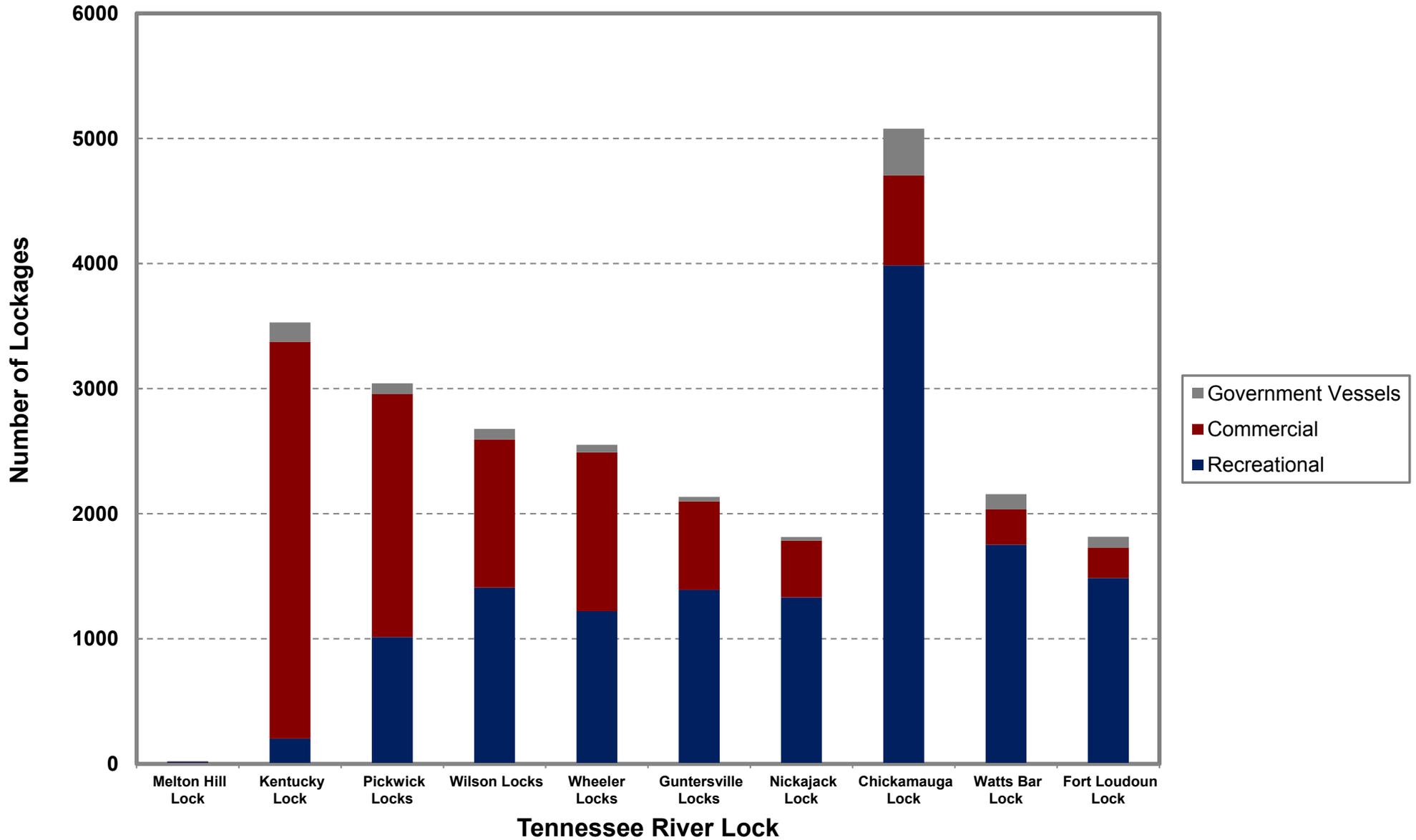
Tennessee River



TVA Tennessee Valley Navigation System



TVA Tennessee River Lockages - 2008



- ◆ **U.S. Army Corps of Engineers (USACE)**
 - Builds, operates, and maintains locks, dams, and channels on 12,000-mile inland waterway system.
 - Section 404(b), Section 10 permitting.
- ◆ **U.S. Coast Guard**
 - Installs and maintains commercial navigational aids.
 - Law enforcement; safety; port and vessel security; bridge permitting.
- ◆ **Tennessee Valley Authority**
 - Manages Tennessee River and its tributaries, including 800 miles of commercial navigation channel; installs and maintains navigational aids on 375 miles of secondary channel.
 - Owns lock and dam infrastructure; Section 26(a) permitting.
- ◆ **Private sector**
 - Develops terminals, ports, and industrial plants.
 - Operates shipping lines, towing, fleetings, and waterway services companies.

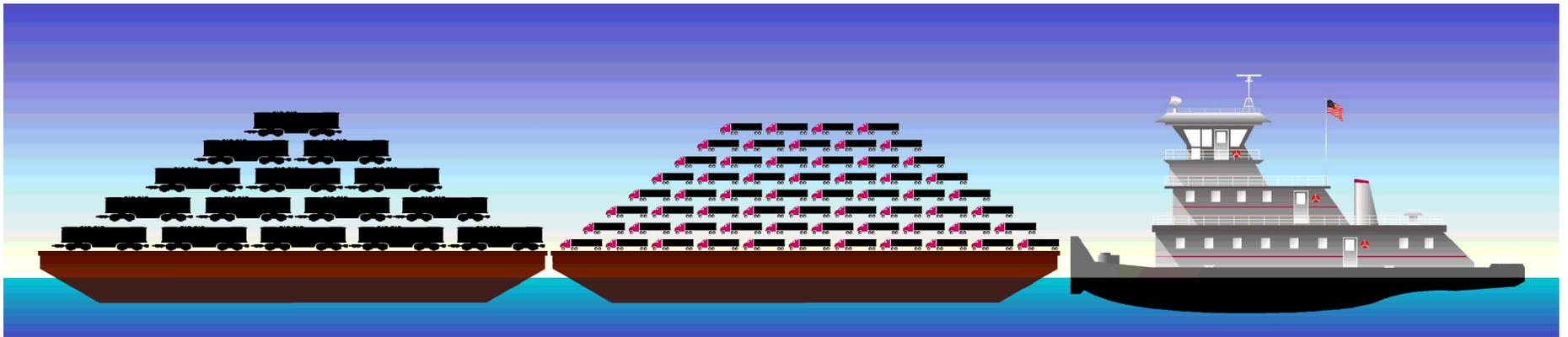
Partnership with USACE

- ◆ Memorandum of Agreement – Construction, Operation, and Maintenance of Navigation Facilities on the Tennessee River and its Tributaries
 - In 1946, TVA and the USACE entered into a Memorandum of Agreement (MOA) to formalize their respective navigation responsibilities on the Tennessee River, prevent duplication of efforts, and provide more fully for navigation.
 - In 1962, the agreement was revised to provide more flexibility in the performance of maintenance and rehabilitation work, allowing the interchange of the responsibilities to provide for efficient and cost effective use of each agency's resources.
 - We continue to operate effectively under that MOA today in fulfilling our joint responsibilities in managing the Tennessee River.

Benefits Provided to the Tennessee Valley

- ◆ Saves shippers and consumers \$400-500 million in transportation costs each year keeping the cost of living low in the Valley.
- ◆ Provides additional \$500 million in transportation savings to rail shippers – water-compelled rates.
- ◆ Provides passage for 17,000 recreational boats annually.
- ◆ Removes the equivalent of 2,000,000 truck loads from the nation's highways and rails.
- ◆ Provides additional environmental and public-safety benefits compared to truck and rail.
 - Consumes less energy and fuel
 - Generates fewer air pollutants
 - Allows safer transport of hazardous materials
 - Has lower injury and fatality rate
- ◆ These are both regional and national benefits.

TVA Environmental and Public Safety Benefits



Cargo of 1 Barge = Cargo of 15 Rail Cars = Cargo of 60 Trucks

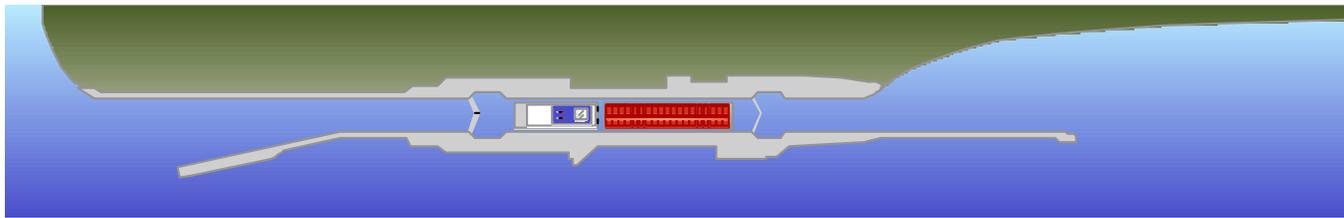


Tennessee River Key Issues

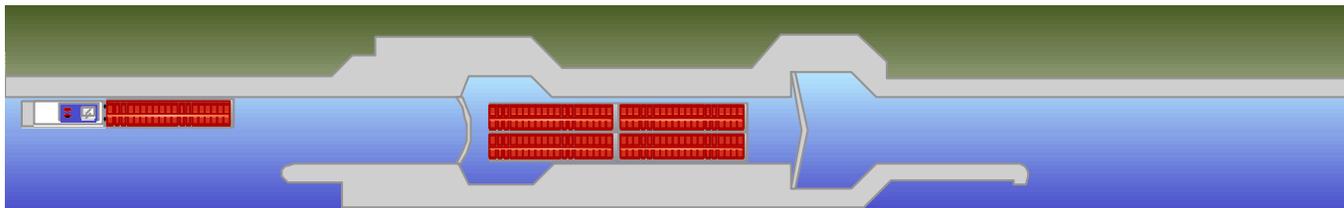
- ◆ Aging Infrastructure – The average age of the locks is 61 years. The planned life of a lock is 50 years. Maintenance costs are rising commensurate with age and funding is a growing concern for both TVA and the Corps.
- ◆ Status of the Inland Waterways Trust Fund.
- ◆ Chickamauga Lock has a structural problem called “concrete growth”. A replacement lock has been authorized.
- ◆ Kentucky Lock is too small and inefficient to handle current and projected traffic. Delays are increasing and causing shipping costs to rise. An additional lock has been authorized.

TVA Chickamauga Lock

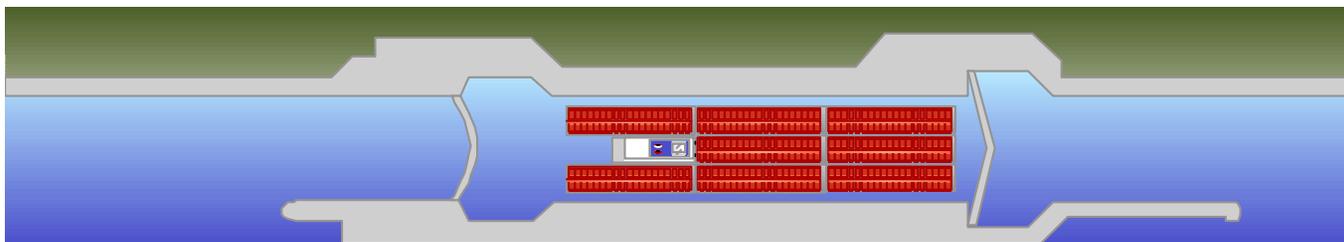
- ◆ Chickamauga Lock suffers from Alkali-Aggregate Reaction (AAR) that causes a volumetric expansion of the concrete and problems with the machinery and gates at the old lock.
- ◆ In 2003, Congress authorized the USACE to construct a new 110' by 600' lock to replace the smaller, less efficient lock.



360 X 60 Feet

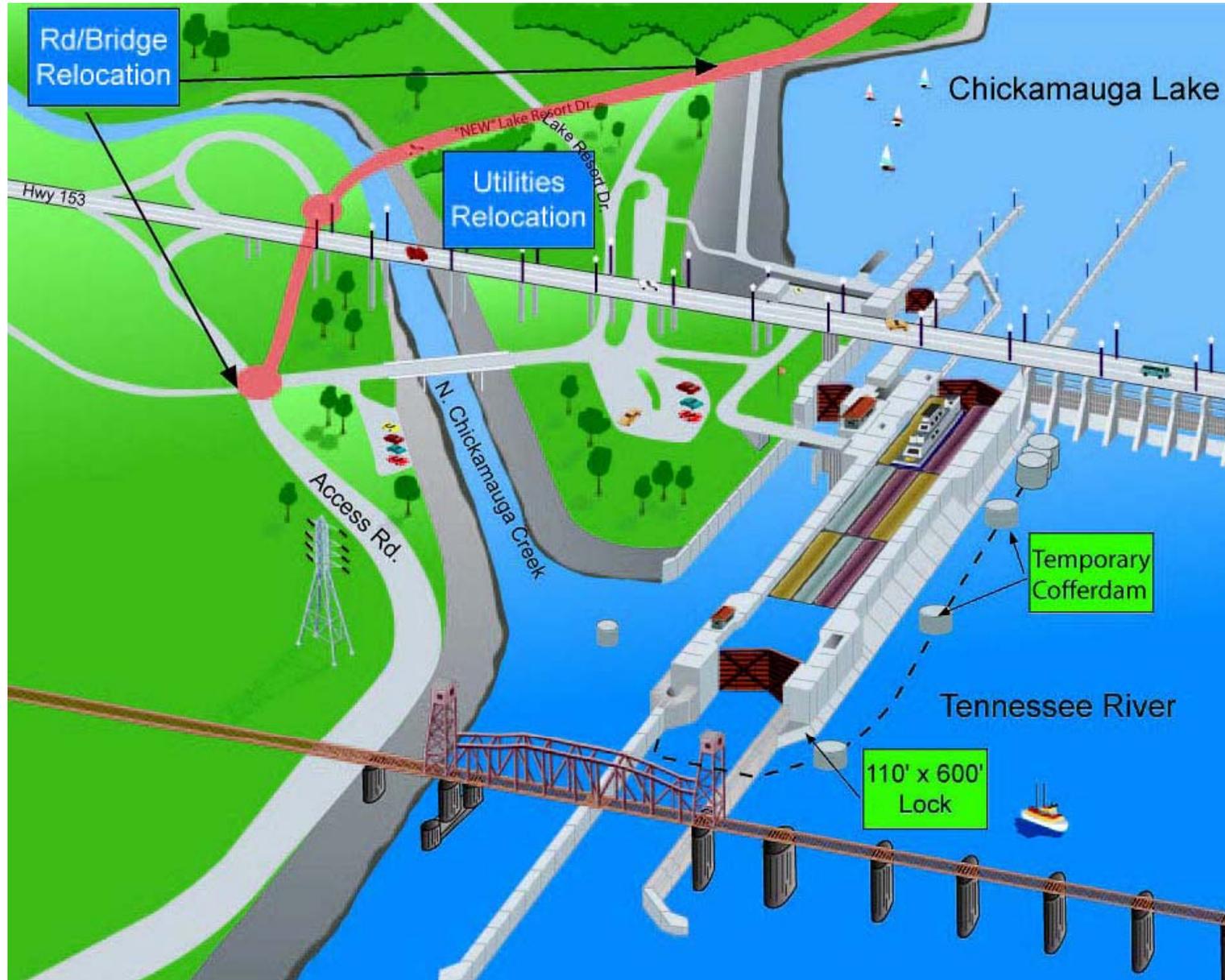


400 X 75 Feet



600 X 110 Feet

TVA Chickamauga Lock

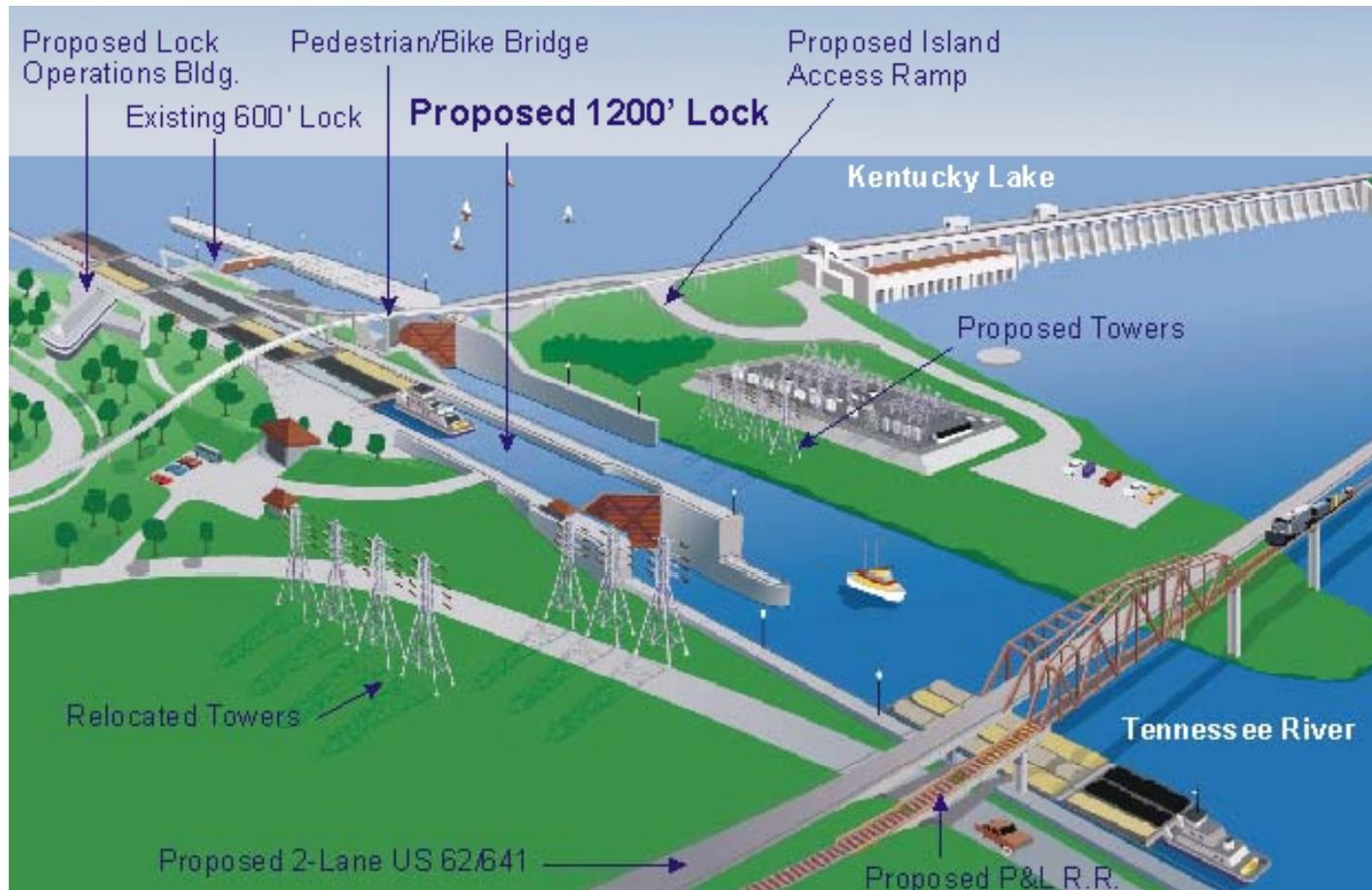


TVA Chickamauga Lock Cofferddam



TVA Kentucky Lock

- ◆ Kentucky Lock is too small and inefficient to handle current and projected traffic. Delays are increasing and causing shipping costs to rise.
- ◆ In 1996, Congress authorized the USACE to construct a new 110' by 1200' lock to replace the smaller, less efficient lock.



We continue to fulfill our navigation mission

- ◆ We have a long-standing, successful partnership with the USACE.
- ◆ We work together with the USACE to address the maintenance needs on the Tennessee River locks.
- ◆ We provide design and other technical support for the new lock projects at Chickamauga and Kentucky Locks.

Questions?