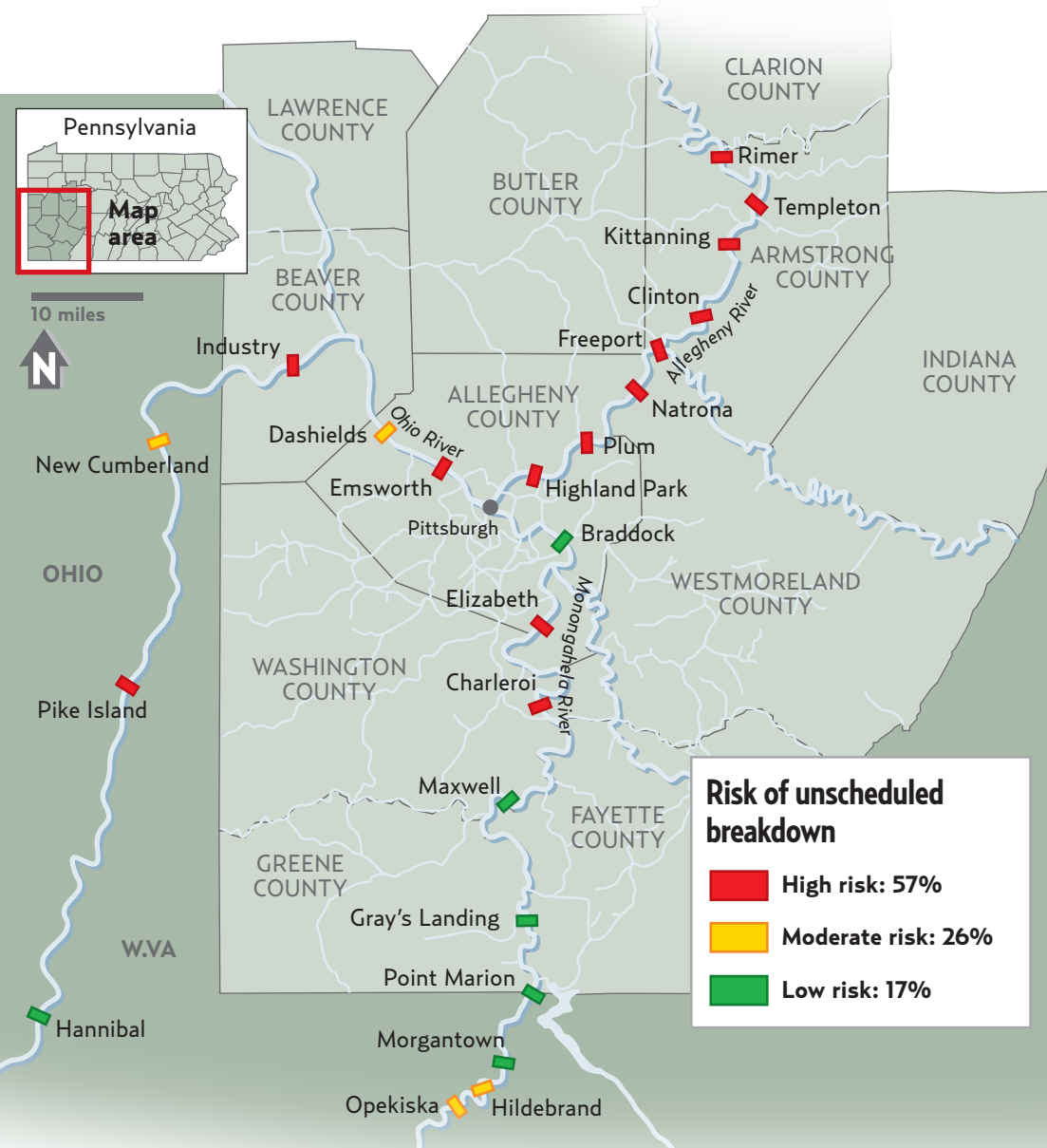


Locked and loaded with concern

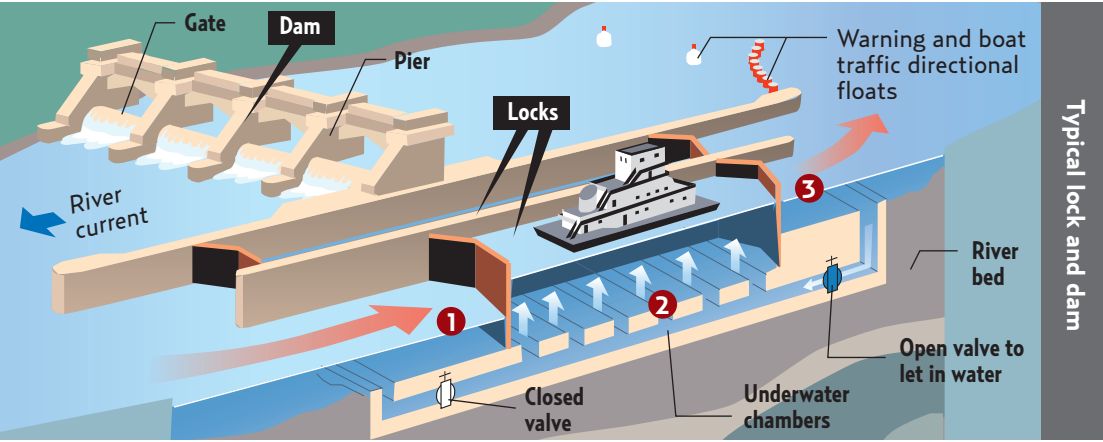
The Army Corps of Engineers has identified more than half of the Pittsburgh District’s 23 lock and dam facilities as being “high risks” for an unexpected breakdown, which would prevent barges from transporting coal to power plants, for example. A major failure could close the affected river to commerce and cause economic distress in the region.



How a lock works

A lock acts like a water-powered elevator for ships to travel between the two different river levels present at a dam. Locks operate in three basic steps:

- 1 A vessel on the lower level of the river enters the lock through one set of opened gates. The set of gates on the far side remain closed.
- 2 Once the vessel is inside, the rear gates are closed. Water from the higher level of the river behind the dam enters the lock through chambers at the bottom. The lock fills up, like a giant bathtub.
- 3 Once the water level inside the lock rises to the higher level of the river, the front gates can open. The vessel continues on its way upstream.



SOURCE: ARMY CORPS OF ENGINEERS

BOB NEWELL AND JASON LANZA/TRIBUNE-REVIEW