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Improving fish passage and public safety at the Ballard Locks

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Improving fish passage at the Hiram M. Chittenden (Ballard) Locks – critical to salmon recovery



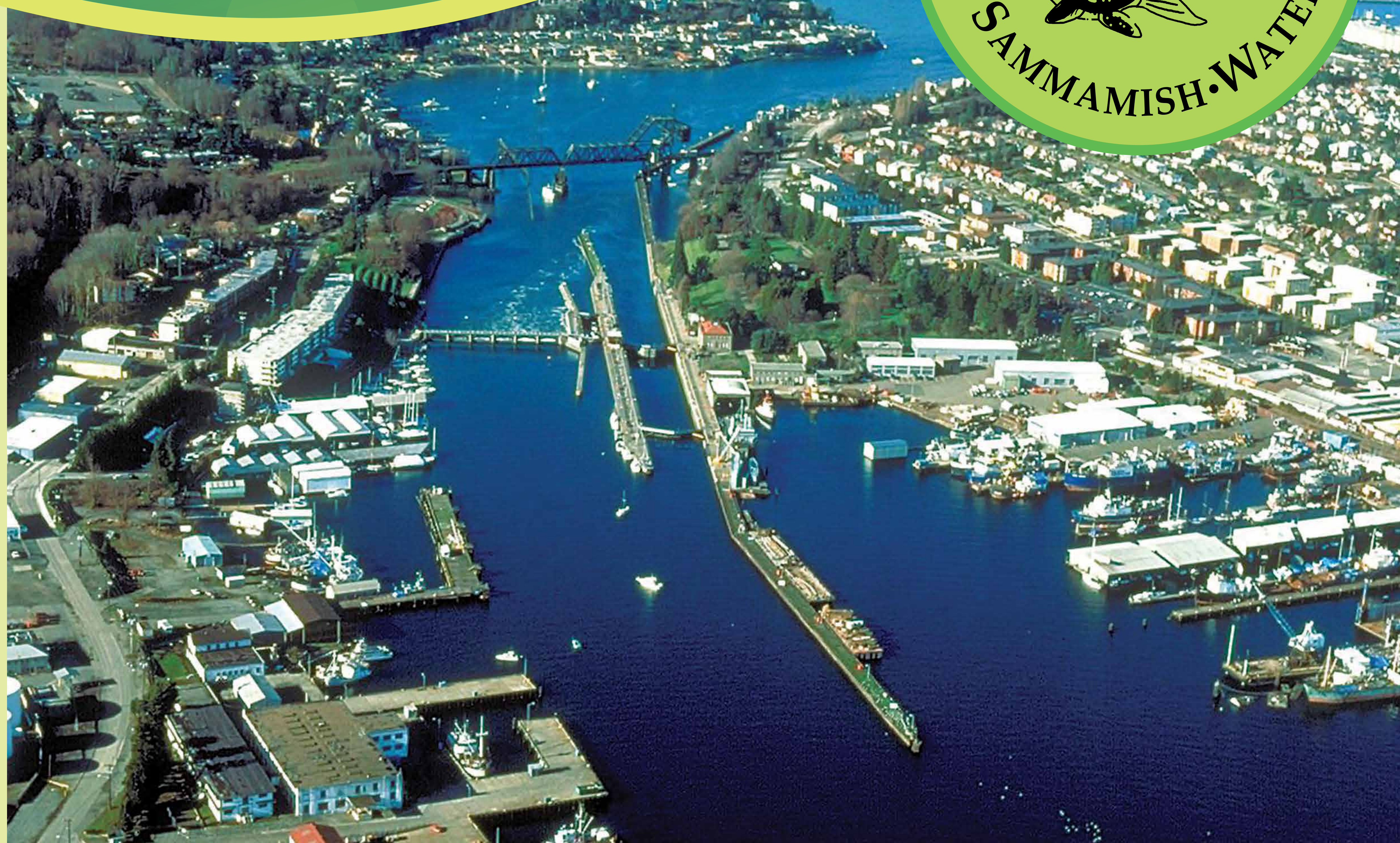
The Hiram M. Chittenden (Ballard) Locks, operated by the U.S. Army Corps of Engineers (Corps), are critical to the region's economy, transportation and flood control infrastructure, and environment. Connecting Puget Sound with Lakes Union and Washington, the Locks are an iconic Seattle attraction. With 45,000 vessels passing through each year, the Locks are the busiest in the country.

Much of the equipment and infrastructure at the Locks, which celebrated its centennial in 2017, is long past its design lifespan and urgently needs repair. Some critical facilities have already failed. In 2012, the Corps lowered the dam safety rating of the Locks to "2" (out of 5, 1 being almost certain to fail under normal conditions because they could fail in an earthquake, with significant economic consequences).

Vital role in fish passage.

Reliable operation of the Locks – and the required safe passage of ESA-listed Chinook salmon and steelhead – depends on the repair and replacement of key infrastructure.

Ensuring safe fish passage through the Locks is of paramount importance to salmon recovery efforts in the Lake Washington/Cedar/Sammamish Watershed (WRIA 8). Improving fish passage supports the local, state, and federal investment of more than \$125 million in habitat restoration since 1999. Every salmon in WRIA 8 must pass through the Ballard Locks twice in its life, both as a juvenile migrating out to the sea and as an adult returning to spawn.



What fish passage improvements are most needed?

- Replace valves and machinery that allows the large lock gates to open and close slowly, which reduces the mortality of juvenile salmon (\$10-\$13 million).
- Upgrade the saltwater drain system and replace degraded temporary screen on the diffuser well to keep fish from being trapped and killed (\$5-\$10 million).
- Upgrade and modernize the fish ladder to improve adult salmon migration.
- Install alternative for the "smolt flumes" to provide a safer route for juvenile salmon over the Locks spillway.
- Develop solutions to decrease water temperatures and increase dissolved oxygen in the Lake Washington Ship Canal upstream of the Locks to reduce thermal barriers during salmon migration.



Smolt flume to get fish safely over the spillway



A failure at the Locks would threaten our regional economy and environment beyond fish.

The Locks regulate the water level of Salmon Bay, the Ship Canal, Lake Union and Lake Washington, keeping it between 20 and 22 feet of elevation.

Failure of the Locks' spill gate or large lock would render the I-90 floating bridge unusable, jeopardizing commuter and freight traffic between Seattle and the Eastside and affecting at least a quarter million vehicles per day. Such a failure would also affect 500 floating homes and innumerable docks on Lakes Washington and Union.

The North Pacific Fishing Fleet relies on the Locks to make its home at Fisherman's Terminal.

The Locks also protect the lakes' water quality by preventing Puget Sound saltwater from mixing with their fresh water.



Dead salmon in the diffuser well of the fish ladder

The Locks have not received the funding they need for repairs.

The Corps' funding priorities emphasize commercial tonnage shipped. Though a million tons of cargo pass through the Locks each year, much of its traffic is recreational. The Corps thus considers the Locks to be low use and they rank low for funding.



What are our next steps?

Support efforts by the Corps' Seattle District to fund critical prioritized repairs to the Locks.

Encourage the Washington State Congressional delegation and other regional leaders to share their concern about the Locks' condition with Corps leadership in Washington, D.C. and request that the Corps increase operations and maintenance funding for critical Locks infrastructure improvements.



WRIA 8 is a regionally-coordinated partnership among 28 local governments, community stakeholders, and state and federal agencies working to recover Chinook salmon.

FOR MORE INFORMATION:

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