

# Fairmount Dam Fishway



## History

The Schuylkill River is the largest tributary of the Delaware River Basin, and approximately 198 kilometers in length from its start in Pottsville to its entry into the Delaware River in Philadelphia. The Fairmount Dam, a municipally-owned facility, was built in 1820 to help provide safe and potable drinking water to the city of Philadelphia. However, in its 150-year history, the dam has decreased the population of American shad, as well as other fish of the Schuylkill River that migrate upriver from the sea to breed in fresh water.

In 1979, with funding from the City of Philadelphia, United States Fish and Wildlife Service (USFWS) and the Pennsylvania Fish and Boat Commission, a vertical slot fish passage on the west side of the dam was constructed to aid the revitalizing the underwater ecology of that stretch of the Schuylkill, specifically for American shad and river herring. Even with this new construction, the populations of these fish did not rise as expected. Because of this failure, the fish way began to deteriorate due to lack of active maintenance or monitoring by 1984.

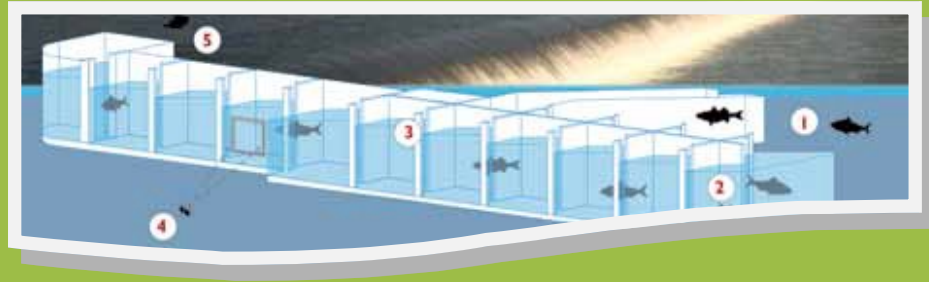
## Improvements

The renovation project, a multi-agency effort led by the U.S Army Corps of Engineers and PWD, has brought many improvements to the overall condition of the fish way as well as to its performance. Before the project, security fences surrounding the fish way had been damaged, which was not only unsightly but allowed trespassers access to the fish way. Finally, storm water and regular erosion had flooded the underground storage and viewing room. The electrical power in the room was inoperable, making the real-time camera of the fish passing through the fish way useless.

When the project was finished, the fish way itself was completely renovated, with new chambers, entrances and exits and an attraction flow that steers migrating fish towards the fish way. The fences and surrounding area of the fish way have been cleared, cleaned and made more aesthetically pleasing for visitors.

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1. A fish following the instinct to swim upstream in the Schuylkill River encounters the turbulent water of the Fairmount Dam's spillway. A current of water, produced by the fishway, flows into the river from the fishway entrance, serving as a guide for the fish, and attracting them to swim through the entrance into the first chamber.



2. The water, pouring through the slots connecting each chamber, guides the fish through the fishway. The water levels, in each chamber, are slightly higher than the chamber before it, allowing the fish to gradually bypass the dam. Additional chambers were added to the fishway, decreasing the effort required by the fish to swim from one chamber to the next.

3. The slots between adjacent chambers maintain the varied water levels throughout the fishway. The slots were widened to ease the passage of fish through the fishway.

4. Live images are captured by a camera through the window in one chamber of the fishway, which are then transmitted to the web and to the Fairmount Water Works Interpretive Center across the river. The live camera feed can be accessed at [www.fairmountwaterworks.org](http://www.fairmountwaterworks.org).

5. Fish exit the fishway through the gate and swim into the waters beyond the Fairmount Dam.

## Improvements Continued..

The underground viewing room has also been renovated, with waterproofing to avoid flooding, and with a direct video feed to the Fairmount Water Works and the Philadelphia Zoo. The feed will show all the fish species traveling upstream during peak season. Finally, Philadelphia Water and other agencies and organizations will use the fishway for a greater amount of educational and community outreach opportunities. Included in the renovation is an outdoor amphitheater, where additional PW educational programs will take place including instruction by trained fishery biologists.

## Benefits

The restoration of the Fairmount Dam fishway is important because of the furthest downstream passage of this passageway flows most directly into the ocean, allowing any fish that travel upstream to spawn a direct passage to their spawning areas. American shad, the main target of the fishway, are a fish that spawn genetically, meaning that a population of shad will spawn at the same area for numerous generations. Eliminating any impediments to the Schuylkill drainage will benefit the population growth of American shad and any other fish that inhabit the Schuylkill.



*PW's outdoor classroom at the Fairmount Dam Fishway brings students of all ages right next to the river for a variety of educational programs.*

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