



NONPOINT SOURCE SUCCESS STORY

Georgia

Stream Daylighting Restores Atlanta's Candler Park Brook

Waterbody Improved

In the 1950s, Candler Park Brook was piped into underground culverts and confined in a surface concrete channel. Decades later, the concrete channel was deteriorating and the biological health of the stream was very poor. Neighborhood partners and the City of Atlanta used grant funding from the Clean Water Act (CWA) Section 319(h) Program to remove the underground culverts and surface concrete channel, restore the stream to its natural channel, plant native vegetation and re-establish a narrow floodplain. The health of the stream and its ecosystem improved and now supports small fish, wading birds, beavers and other wildlife.

Problem

Candler Park Brook is a headwaters stream that drains into Lullwater Creek, Peavine Creek, Peachtree Creek, the Chattahoochee River, and ultimately into the Gulf of Mexico. The brook flows through a public park and golf course in Atlanta (Figure 1).

In the 1950s, Candler Park Brook was contained in an underground pipe and a surface concrete channel (Figure 2). After 50 years, the culverts that had housed the stream were collapsing, leading to sink holes in the ground surface. The surface concrete channel was also deteriorating. In addition, the brook was impacted by illegal dumping, stormwater overflows and urban runoff. The biological health of the stream was very poor, supporting only fly larvae and aquatic worms, and the riparian habitat was virtually nonexistent. Biological monitoring and assessment of Candler Park Brook in 1999 indicated impaired biological condition, and habitat assessments indicated a *poor* rating. Benthic macroinvertebrate samples also indicated *suboptimal* or *poor* habitat condition ratings. Project partners wanted to restore the biologic health of Candler Park Brook and provide a healthier ecosystem for fish and other wildlife, as well as the community, to enjoy.

Story Highlights

The need to restore Candler Park Brook was identified in *Watershed Restoration Action Strategy for the Lullwater Fork*. In 2002, a CWA section 319(h) grant was awarded to remove the culverts and concrete channel and to daylight the stream. The project



Photo: Meanders River Restoration, Inc.

Figure 1. The restored Candler Park Brook flows through an Atlanta park.

removed approximately 850 feet of concrete culvert and daylighted another 1,850 feet of underground stream. The stream was restored by implementing a natural channel design approach, and the riparian buffer was restored with native vegetation, including black willow live stakes and other woody and herbaceous species.

Stormwater pipes were removed at the head of the watershed, and stormwater was restored to surface flow, which was directed through 650 linear feet of bioretention and an open stream channel. Two micro-pool retention basins and one extended detention pond were also installed to reduce stormwater runoff to the stream.

Results

Two rehabilitation goals were set for the project: improvement in biological health and a return to naturalized stream flow. Monitoring that was conducted four years after project completion showed the macroinvertebrate index improved from *very poor* to *poor* condition. A fish survey showed no fish at the start of the project, but by the fourth year showed numerous small fish (native mosquito fish were most numerous).

Daylighting the stream also opened the door for beavers to colonize in the park. First documented in 2009, this unplanned but ecologically significant outcome has created an estimated 1.3 acres of wetlands (per interpretation from 2019 Google Earth maps). Two beaver dams have created sizable ponds and wetlands, which offers new habitat for wading birds, ducks, frogs and other wildlife (Figure 3).

Partners and Funding

Many partners worked together to realize the Candler Park Brook Stream Restoration Project. The City of Atlanta and a coalition of community, environmental and municipal partners participated, including the Candler Park Neighborhood Organization (CPNO), the City of Atlanta Department of Parks and



Photo: Barrett Walker

Figure 2. Before the restoration project, Candler Park Brook emerged from an underground culvert and flowed through a concrete channel.

Recreation, Park Pride, the Georgia Environmental Protection Division and several other local organizations (Freedom Park Conservancy, Lullwater Fork Improvement Committee, Mary Lin School, Peavine Watershed Alliance and Paidea School). The project was funded in 2002 by a CWA section 319(h) grant for \$875,000, with \$525,000 from CWA 319(h) federal funds and \$350,000 from the City of Atlanta's Community Bond money. Dr. Steven Jones designed and implemented the restoration project.



Source: Google Earth

Figure 3. Changes can be seen by comparing the project area in 2002 (left, before restoration), 2008 (middle, after stream restoration), and 2018 (right, after a beaver dam impoundment formed in the restored stream channel).



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