

Goose Creek Stream Restoration

Durham, North Carolina



top: Immediately after construction;
middle & bottom: Initial conditions

Goose Creek is a prominent urban stream in downtown Durham. Its urbanized watershed supplies water to the Falls Lake reservoir, a major source of drinking water for Raleigh. The North Carolina Ecosystem Enhancement Program, in cooperation with the City of Durham, enlisted Biohabitats to restore a 1,500-foot section of Goose Creek to natural condition.

Habitat and function are restored to a prominent urban stream while a community gains educational and recreational opportunities.

The project reach had been highly modified and artificially confined by concrete on the upstream reach and rock walls on the downstream reach. Stream banks were lined with historic trees that required preservation wherever possible. The design had to factor in sanitary sewers, water lines, stormwater infrastructure, and neighborhood revitalization plans.

Biohabitats conducted a stream assessment, developed restoration alternatives, conducted a feasibility analysis, created a channel and buffer design, evaluated potential stormwater best management practices, prepared a bid package, assisted with award

administration, and performed construction oversight.

The final design accommodated the need for more natural channel sinuosity and pronounced channel features (riffles, runs, pools, and glides) within a relatively narrow project corridor. One section of the restored channel includes an innovative, two-stage channel to preserve low flow habitat in this low sediment-supply setting.

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