

Moores Branch at Lightfoot Tributary Stream Restoration

Pikesville, Maryland



from top: Initial conditions with severely eroded banks; Exposed manhole cover due to erosion; Assessing stream conditions

Moores Branch flows through suburban neighborhoods of Baltimore before its confluence with Jones Falls, a tributary to Baltimore Harbor and ultimately the Chesapeake Bay. The Moores Branch watershed had undergone a series of changes typical of developed Baltimore County. Following rural colonial settlement, the area transitioned to agricultural use, followed by urbanized, residential development.

Stability, beauty, habitat, and ecological function are restored to a stream that flows through a congested, suburban neighborhood.

These land use changes resulted in an increased amount of fast-moving stormwater runoff to the stream network via impervious areas. In concert with hydrologic impacts, changes in land management affecting sediment supply introduced cycles of channel and valley filling, along with channelization. As a result of these changes, portions of Moores Branch suffered headcutting and widening.

Biohabitats helped to restore stability and ecological function to two degraded reaches of Moores Branch. Implemented through an on-call contract to provide stream and restoration services to the Baltimore County Department of Environmental Protection and Sustainability, the project involved the restoration of two reaches on two distinct stream systems that combine to form Moores Branch. At the first reach, which included the stream's headwaters at an

outfall, the team restored 4,700 linear feet of stream along with a small tributary. At the second reach, the team restored 3,700 linear feet of stream.

Initial field work for the project included geomorphic assessment, riparian assessment, wetland delineation, and detailed topographic survey. Based on a synthesis of these investigations, the team developed conceptual design approaches focused on the creation of a long-term, stable system with a natural aesthetic. The team then performed hydraulic modeling, preliminary and final design, and permitting. The project involved a significant amount of stakeholder engagement to ensure public support and stimulate stewardship of the restoration.

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