Restoring a Stream, Restoring a Community—Urban watershed restoration fosters community improvement

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The Anacostia Watershed lies within the Chesapeake Bay drainage basin, and is one of the most urban watersheds within the basin. According to the Fish and Wildlife Service, the watershed spans over 175 square miles between Maryland and the District of Columbia and is considered by many to be one of the most degraded waterways in the United States. Watts Branch is a tributary stream of the Anacostia River, and flows into the Potomac River which eventually empties into the Chesapeake Bay.

This historically thriving river served as an important habitat for wildlife and a key food source for the resident Native American tribes. Centuries of development have led to the degradation of the river through years of unrestricted agricultural runoff as well as the introduction of nonpoint source pollution caused by the industrialization and urbanization of the area. Once a remote area, the Anacostia watershed is now a metropolitan hub with more than 800,000 residents (Anacostia Watershed Restoration Partnership).

In 2010, several partnerships were formed to restore a section of the Watts Branch stream and riparian area. The restoration efforts were focused on a highly polluted 1.8 mile stretch of the stream, running from the border of Prince George's County southwest towards the Anacostia River. The project was a collaborative effort between the U.S. Fish and Wildlife Service, the Natural Resources Conservation Service, the National Park Service, the Environmental Protection Agency (EPA), the District Department of the Environment (the District), the D.C. Water and Sewer Authority (DCWSA), and several other locally based organizations.

Watts Branch before restoration (USFWS photo)

The main focus of the Watts Branch Restoration was to restore the eroded stream channel, which was responsible for depositing nearly 1,500 tons of sediment into the Anacostia Watershed each year. Using natural stream channel design, the stream was reconnected to the flood plain to prevent bank erosion as well as alleviate damage caused by seasonal flooding. Habitat was improved both within the stream channel as well as along the banks of the channel. In-stream structures were installed to improve riffle pool habitat, and the riparian area, from the channel to the flats, was heavily planted with native grasses, shrubs, and trees to establish a forested area on both sides of the channel. Sanitary conditions were also improved along the stream. Due to seepage of graywater into the stream, as well as infiltration of the stream into sewage lines, over 40 sewer line crossings were replaced, moved, or lined to avoid stream contamination.

Watts Branch after restoration (USFWS photo)

The restoration resulted in several significant environmental impacts, including reducing erosion and sedimentation of the stream, and

increasing floodplain storage. The restoration activities have provided necessary in-stream habitat improvements to support populations of American eel, alewife, and American shad. The restoration of the riparian area has provided improved habitat for several Federal Trust Species, including American flycatcher, willow flycatcher, prothonotary warbler, cooper's hawk, barred owl, and great blue heron, to name just a few.

Economic Impacts of Restoration.

Restoration of the Watts Branch stream began in December 2010 and was completed one year later. Through funding provided by the EPA, the National Fish and Wildlife Foundation, the District, and DCWSA, restoring Watts Branch had a substantial impact on the local economy. Total restoration project costs were over $3 million (2011$). The majority of expenditures occurred in the mining and quarrying as well as the commercial and industrial machinery and equipment sectors, with nearly $450 thousand spent on rocks such as rip-rap and $425 thousand spent on equipment rental and leasing. The project also purchased nearly $150 thousand worth of nursery and landscape products from local producers.

Restoration of the stream was equipment intensive. (USFWS photo)

The local economy surrounding the project location includes 20 counties in Virginia, West Virginia, and Maryland within commuting distance of the D. C. metropolitan area. Due to the urban nature of this project and the wide local availability of materials, much of the money spent stayed within the local economy. The Watts Branch Restoration directly accounted for 26 jobs in the local communities surrounding the area and directly provided over $1.5 million in local labor income (salaries, wages, and benefits) and $1.5 million in local value added (the contribution of expenditures to Gross Domestic Product) to the local economy. In addition to these direct impacts, the Watts Branch restoration indirectly supported an additional 19 jobs which provided an additional $1.1 million in labor income and $1.9 million in value added. In total, restoring Watts Branch supported 45 jobs, $2.6 million in labor income, and $3.4 million in valued added.

Neighborhood Revitalization.

Beyond the economic impacts of the restoration project, the community has benefitted from the restoration of the stream. The Watts Branch Restoration turned a degraded stream into an urban sanctuary within an underserved neighborhood of Washington, D.C., where green-space and park space is limited. In conjunction with the restoration of the stream, local communities have begun to see several other positive changes including the redevelopment of neighborhoods, utility upgrades, and recently completed street upgrades. Additionally, Washington Parks and People, also known as D.C. Green Corps, has begun using Watts Branch as an outdoor classroom to prepare an emerging green workforce for jobs in urban and community forestry and forest-based ecosystem and watershed restoration.

> *"We are challenging ourselves to explore innovative ways to enrich our natural resources and our community… For the sake of our environment and in the spirit of innovative thinking, we are moving forward together as 'One City' to create a healthier, sustainable environment."*
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> *—DDOE Director Christophe Tulou (quoted in District Department of the Environment, 2011)*